Prepared for:

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4747 HARRISON
ROCKFORD, ILLINOIS

Regarding:

AREA 9/10 SOUTHEAST ROCKFORD GROUNDWATER CONTAMINATION SUPERFUND SITE, ROCKFORD, ILLINOIS

For Submittal To:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

EQUIVALENT OF QUALITY MANAGEMENT PLAN FOR SECOR INTERNATIONAL INCORPORATED, LEAD CONTRACTOR FOR REMEDIAL DESIGN, AREA 9/10 SOUTHEAST ROCKFORD GROUNDWATER CONTAMINATION SUPERFUND SITE.

Prepared By:

SECOR INTERNATIONAL INCORPORATED

SECOR

January 15, 2003

Equivalent of Quality Management Plan for
SECOR International Incorporated, Lead Contractor for Remedial Design
Area 9/10 Southeast Rockford Groundwater Contamination Superfund Site
Rockford, Illinois

Introduction

Section VIII, of the Administrative Order on Consent (AOC) negotiated between United States Environmental Protection Agency - Region V (EPA) and Hamilton Sundstrand (HS), a United Technologies Corporation (UTC) company, requires that all work associated with the Remedial Design (RD) performed under the AOC be done so under the direction and supervision of qualified personnel. This section of the AOC also presents the requirement that documentation of the lead contractor's qualifications be provided by submitting a copy of the proposed lead contractor's Quality Management Plan (QMP) to EPA Region V. Per the AOC, the QMP should be prepared in accordance with several referenced guidance documents such as "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs (ANSI/ASQCE4-1994) and *"EPA Requirements for Quality Management Plans (QA/R-2)"* (EPA/240/B-01/002, March 2001), identified henceforth as QA/R-2, or equivalent documentation.

The purpose of this document is to demonstrate that SECOR International, Inc. (SECOR), the identified lead contractor for the above referenced Site, has a quality system in place, and confirm that the information presented in this correspondence is sufficient to satisfy the requirements of the QMP as presented in Section VIII of the AOC. The documentation of SECOR's quality systems are provided in the following text and is organized to correspond to the specific sections of a formal QMP.

Section 1.1 of QA/R-2 specifies that non-EPA organizations funded by EPA (which we interpret to be SECOR as the lead contractor) may prepare the equivalent of a QMP rather than prepare a formal QMP. An equivalent document may not be called a QMP but would still document an organization's quality system and address the required quality management practices identified in QA/R-2. Contractors to EPA (again, which we interpret to apply to the lead contractor, SECOR, due to the requirement contained in the AOC) are required to document their quality system in a QMP (or equivalent) through 48 CFR 46 According to EPA's Quality Staff in their on-line publication titled "*Doing Business With EPA: Quality requirements for non-EPA Organizations*" (http://www.epa.gov/quality1/exmural.html), EPA has selected the national consensus standard ANSI/ASQC E4-1994, "*Specifications and Guidelines for Environmental Data Collection and Environmental Technology Programs*" as the basis for its quality requirements and through tailoring language to 48 CFR 46, requires that contractors submit a QMP (or equivalent) and/or a Quality Assurance Project Plan (or equivalent) to demonstrate conformance to the standard. EPA notes in Section 1.2 of QA/R-2 that the document (i.e., QA/R-2) is entirely based on Part A of ANSI/ASQC E4. Therefore, a QMP is used to demonstrate conformance with Part A requirements of ANSI/ASQC E4-1994.

Per QA/R-2, the specific quality management elements outlined in Chapter 3 of that document should be evaluated for applicability to the needs of the quality system to be

installed. Where a particular element is not relevant, an explanation of why the element is not relevant must be provided in the QMP (or otherwise acknowledged, as in the text of this correspondence). The elements in Chapter 3 of QA/R-2 are:

1. Management and Organization;
2. Quality System Description;
3. Personnel Qualifications and Training;
4. Procurement of Items and Services;
5. Documentation and Records;
6. Computer Hardware and Software;
7. Planning;
8. Implementation of Work Processes;
9. Assessment and Response; and
10. Quality Improvement.

SECOR's programs that are in place to satisfy the applicable elements are as follows:

1. Management and Organization

[Purpose of the Management and Organization Item – To document the overall policy, scope, applicability, and management responsibilities of the organization's quality system.]

A statement of SECOR's Quality Program objectives is included as Appendix A. The signature page, included as part of Appendix A, identifies all responsible personnel within the organization, including the Corporate Quality Assurance Officer, James Kerr. The statement, signed by the appropriate Corporate Officials, describes the goal of the quality management program, which is to ensure that the products produced by SECOR are of high quality and are technically defensible. Note from the attached SECOR Corporate organizational chart (Appendix B) that Mr. Kerr has an independent reporting status to the Technical Services Vice President within the company. Mr. Kerr is funded by the Corporation to provide a Corporate Quality Assurance function, and he is expected to provide that function without conflict (i.e., he is not directly associated with any major project(s) within the Company that could require a Quality Assurance audit or other attention).

2. Quality System Description

[Purpose of the Quality System Description Item – To document how an organization manages its quality system and defines the primary responsibilities for managing and implementing each component of the system.]

The principal component of the SECOR quality system is the Corporate Quality Assurance Officer, James Kerr. As SECOR is a relatively small company (approximately 850 employees), Mr. Kerr performs the quality assurance function without a formal staff of employees who are dedicated to providing that function on a day-to-day basis. However, for larger projects, Mr. Kerr designates a Project Quality Control Officer who may be a member of the technical project staff assigned to work with the Quality Assurance Officer to implement the project QA program.

Mr. Kerr also works with the Technical Services Program Leaders (see attached organization chart, Appendix B) to ensure that the Corporate Quality Assurance policy is upheld in each of the specific technical service areas. He instructs (i.e., trains) the Technical Service Program Leaders in methods that may be used to achieve the objectives of the Corporate Policy, such as proper implementation of peer and management reviews of documents, receiving client feedback, ensuring that analytical laboratories are accredited (if required), etc.

3. Personnel Qualifications and Training

[Purpose of the Personnel Qualifications and Training Item – To document the procedures for assuring that all personnel performing work for an organization have the necessary skills to effectively accomplish their work.]

SECOR is an environmental consulting company and, as such, has a formal set of educational verification and training requirements in place to ensure that environmental programs are carried out with properly trained personnel. SECOR's Corporate structure includes a Technical Services Group which is comprised of senior technical staff representing each of the technical services provided by SECOR. Members of the Technical Services Group are responsible for ensuring that project managers are qualified and appropriately supported by qualified personnel. Additionally, the Technical Services Group fully supports training and seminars for technical staff to ensure that the appropriate knowledge, skill and formal qualifications are maintained among SECOR's technical staff.

A key training program required by the Occupational Safety and Health Administration (OSHA), is the hazardous materials and emergency response operations (known as HAZWOPER) training and regular refresher training. SECOR's Corporate Health and Safety Officer, Mr. Phillip Platcow (see Appendix B for the SECOR Corporate organization chart), is the Corporate official responsible for ensuring that only appropriately trained personnel are allowed to perform work on sites that may contain hazardous materials. The SECOR Corporate Health and Safety policy is provided as Appendix C (document titled "*SECOR Health and Safety Policies and Procedures Manual*"). In the larger SECOR offices, Mr. Platcow has designated assistants to ensure that training certificates are maintained as Corporate records and that Health and Safety Plans (HASPs) are appropriately developed for each project activity requiring a HASP.

4. Procurement of Items and Services

[Purpose of the Procurement of Items and Services Item – To document the procedures for purchased items and services that directly affect the quality of environmental programs.]

As the lead contractor, SECOR may be called upon to provide subcontractors and services (other than the services of analytical laboratories which are contracted directly to UTC). SECOR maintains a written set of employee policies and procedures that are contained in the Corporate Policy and Procedure Directives that address business ethics (Directive A.1), Conflicts of Interest (Directive A.2), and Relations with Customers and Suppliers (Directive A.3). The above referenced Directives are presented in Appendix D.

Other in-place procedures to ensure that subcontractors meet SECOR's quality requirements are written scopes of services attached to subcontracts issued by SECOR. A copy of a typical subcontract issued by SECOR is included as Appendix E.

SECOR also has in its employ a Contracts Administrator, Mr. Don Oelschlager, who has the responsibility to ensure that SECOR's subcontractors meet the contractual obligations set forth in the subcontract and in the scope of services. He will act on the recommendations of SECOR Project Managers and/or technical personnel who receive subcontractor services that are deemed to be of substandard quality or not consistent with the scope of services included in their subcontract.

SECOR's Corporate policies require that all purchases be approved. In addition to cost control, purchase requisitions are evaluated to ensure that the items meet acceptable quality standards for performance and durability.

5. Documentation and Records

[Purpose of the Documentation and Records Item – To document appropriate controls for quality-related documents and records determined to be important to the mission of the organization.]

SECOR's employee manual "*Policy and Procedures Directives*" has a Record Keeping and Retention Policy (Directive B.3; presented as Appendix D). The Directive states that the length or records retention shall conform to regulatory and contractual requirements when they exist. SECOR's contractual requirement to UTC is to retain all records generated under our working relationship for a period of 3-5 years. The AOC contains a specific requirement for a longer record retention period. Therefore, SECOR will provide for the retention of all records generated during the RD for a minimum of 10 years following completion of the RA.

Reports and other technical documents generated at the office level are controlled electronically and in hard copy. Offices maintain a central hard copy filing system for active and inactive projects. Access to the central filing system is restricted to the office administrative staff. Files are maintained for the minimum time according to the contractual requirements. Electronic files are maintained through a local area network that contains files for "work in progress" and project archives (for completed and/or inactive projects). Once documents have received internal approval, they are transferred to the office administrative staff's control. Access under administrative staff control is limited to administrative staff.

6. Computer Hardware and Software

[Purpose of the Computer Hardware and Software Item – To document how the organization will ensure that computer hardware and software satisfies the organization's requirements.]

Because SECOR's involvement with the RD will not require development of new software, part of this item is not applicable. Because there is no requirement in the AOC for electronic delivery of analytical data, computer hardware and software is not an applicable part of this equivalent QMP. However, because SECOR will be entering analytical data collected during the RD into commercially available Microsoft Access or

Excel formats, the data will be available in a form that is accessible to EPA, in the event that an electronic copy of the data are desired.

7. Planning

[Purpose of the Planning Item - To document how individual data operations will be planned within the organization to ensure that data or information collected are of the needed and expected quality for their desired use.]

The AOC specifies the process that must be completed to meet the objectives of an RD, which is to ultimately bring the site to closure under the remedial portion of the Superfund program. Planning requirements of a QMP will be met by SECOR through adherence to specific requirements of the AOC and through preparation of specified work plans prior to beginning any field activities. The work plans are subject to approval by the EPA, thus ensuring that the work resulting from the plans will be focused on the objective, which is to provide additional characterization of certain portions of Area 9/10 to provide additional support to the design of a remedial action(s) as specified in the Record of Decision.

SECOR's method for preparation of work plans also ensures that the objectives of the work plan will be met by involving all technical and management stakeholders in preparation of the plan. The SECOR Project Manager assembles the team of technical personnel, including hydrogeologists, remediation engineers, risk assessors, and data quality personnel, who eventually will use the product of the work plan to prepare the technical elements of that plan. The plan will identify the data quality objectives (DQO) and ensure that the data collection and analysis will meet the required DQO level. The Project Manager, who manages the schedule (and budget), will ensure that time limitations included in the AOC are met and that sufficient resources are available to accomplish the tasks included in the work plan. Management personnel from HS/UTC will review the technical product to ensure that the proposed approach meets the objectives of EPA as outlined in the executed AOC. Following review and approval of the work plans by HS/UTC, they are submitted to EPA for review and ultimate approval.

As this QMP equivalent document has been prepared to address specific requirements in the AOC, the specified performance criteria for measuring quality will be the acceptance of the work products by the EPA.

8. Implementation of Work Processes

[Purpose of the Implementation of Work Processes Item - To document how work processes will be implemented within the organization to ensure that data or information collected are of the needed and expected quality for their desired use.]

Implementation of work processes will be governed primarily by preparation of detailed work plans (and, therefore, minimize the chance of error on the part of project personnel). When there is a need for a specific types of operations (e.g., surface soil sampling, subsurface soil sampling, sediment sampling, equipment decontamination, chain-of-custody protocol, sample handling and shipment, etc.), existing standard operating procedures (SOPs) specific to each activity will be utilized, and as appropriate the existing SOPs will be modified to address site specific conditions. Applicable SOPs will be included as appendices to the work plans. The SOPs will provide the detail

necessary to ensure that project personnel are provided with access to techniques that will yield data of acceptable quality. By attaching the SOPs to work plans, those SOPs will be subject to approval by EPA. Because this action is an RD under Superfund, the SOPs will be prepared in general conformity with EPA's "*Guidance for the Preparation of Standard Operating Procedures (G-6)*" (EPA/240/B-01/004 March 2001).

If the work plan specifies collection of samples in a given location or by a given method and field personnel find that changes must be made because of site-specific conditions, it will be the SECOR Project Manager's responsibility to authorize changes after consultation with the technical stakeholders, UTC and Viacom, and EPA (or their representatives). Any authorized changes will be documented in field log books that are retained as a part of the record generated for the site. To avoid confusion regarding the degree of input obtained from technical and management personnel prior to authorizing the change, documentation of the identities of the personnel involved in the decision will be entered into the log book.

Two documents that accompany the work plan that are crucial to the success of this RD are the Field Sampling Plan (FSP) and the Quality Assurance Project Plan (QAPP). These documents will be prepared (and used) by a Project Quality Assurance Officer, who will be designated as part of SECOR's project team. As this is an RD, the FSP and the QAPP will be prepared in conformity with EPA's documents titled: "*EPA Requirements for QA Project Plans (QA/R-5)*" (EPA/240/B-01/003 March 2001) and "*Guidance on Quality Assurance Project Plans (G-5)*" (EPA/600/R-98/018 February 1998).

9. Assessment and Response

[Purpose of the Assessment and Response Item - To document how the organization will determine the suitability and effectiveness of the implemented quality system and the quality performance of the environmental programs to which the quality system applies.]

To ensure that the RD is conducted in a manner that consistently meets quality objectives, SECOR will include a Project Quality Assurance Officer as a member of the project team. The Project Quality Assurance Officer will report to SECOR's Corporate Quality Assurance Officer, Jim Kerr. The Project Quality Assurance Officer will have decision making authority and will advise the Project Manager in matters such as selection of qualified individuals to perform field investigations or to evaluate the products of the field investigations and design activities (i.e., the technical professionals who will use the data for their specific purposes such as hydrogeological characterizations, risk characterizations, and remedial design).

Because this project is an RD, the Project Quality Assurance Officer will be responsible for ensuring that products are generated in a manner generally consistent with EPA's overarching Quality System program, which is contained in EPA Order 5360.1 A2 (May 2000), Policy and Program Requirements for the Mandatory Agency-wide Quality System. Relevant Quality System documents to be used as guidance for the Project Quality Assurance Officer will include:

EPA Manual 5360 A1 (May 2000) – *EPA Quality Manual for Environmental Programs*

EPA/600/R-96/055 (August 2000) – *Guidance for the Data Quality Objectives Process (G-4)*

EPA/240/B-01/007 (September 2001) – *Decision Error Feasibility Trials (DEFT) Software (G-4D)*

EPA/600/R-00/007 (January 2000) – *Guidance for the Data Quality Objectives Process for Hazardous Waste Sites (G-4HW)*

EPA/600/R-99/080 (January 2000) – *Guidance on Technical Audits and Related Assessments (G-7)*
QA00 Version EPA/600/R-96/084 (July 2000) – *Guidance for Data Quality assessment: Practical Methods for Data Analysis (G-9)*

EPA/600/R-96/085 (December 1997) – *Data Quality Assessment Statistical Toolbox – DataQUEST (G-9D)*

EPA/240/B-00/004 (December 2000) – *Guidance for Developing a Training Program for Quality systems (G-10)*

In addition to the above references, SECOR has prepared and routinely updates (via, peer review) several internal Quality Series documents. To the extent appropriate, SECOR's Project Quality Assurance Officer will use elements of these documents as tools to further ensure that the project assurance objectives are met.

10. Quality Improvement

[Purpose of the Quality and Improvement Item - To document how the organization will improve the organization's quality system.]

SECOR's Corporate Quality Assurance Officer has prepared a comprehensive Quality Assurance Manual that is intended for use as the governing document for primarily all SECOR project operations. The elements of the manual (which are subject to routine updating) include an introductory section, a section on standard operating procedures, and sections on project quality assurance planning, personnel qualifications and training, subcontractor quality assurance, procurement quality assurance, sample control and chain of custody, document control and project recordkeeping, quality assurance auditing and corrective action, quality assurance in sample collection, field sampling and data collection methods, guidelines for planning sample analysis, quality control for field measurement instruments, precision and accuracy, technical and peer review, engineering drawings, and publications. Use of the Quality Assurance Manual as a formal guide to instill quality assurance considerations into SECOR's daily activities is a demonstration of the Company's commitment to quality improvement.

APPENDICES:

A. SECOR Quality Management Policy
B. Organization Chart
C. Health and Safety Policies and Procedures Manual
D. Corporate Policy and Procedure Directives
E. Typical Subcontract Issued by SECOR

APPENDIX A

SECOR Quality Management Policy

SECOR International Incorporated
Quality Management Program
Policy and Organization

Statement

The foundation of SECOR success is our ability to efficiently deliver expert, quality service to our clients. This quality service is maintained through a continuous and dynamic process that strives to foster the highest professional standards of practice. Quality is measured at SECOR in degrees of excellence in our support of our large national accounts as well as our equally important small to mid-size clients.

Policy

Quality management at SECOR is based on a definition of quality as conformity to professional standards, and on the premise that performance requirements are governed by corporate policies, standard operating procedures, safety considerations, and client-specific or project-specific objectives. SECOR is committed to a philosophy that productivity, profitability and client satisfaction result from quality achievement, and that optimum quality is best achieved through a proactive strategy. Quality must be continuously measured by conformity assessment to provide SECOR operations and executive management with recommendations for improvements.

The SECOR Quality Management Program is comprised of these key elements:

- Quality Assurance (QA) - A written set of policies and procedures developed to ensure and document that the work performed achieves the quality requirements of the client and SECOR.
- Quality Control (QC) - A formal and informal system of performance audits, inspections and corrective actions that ensure quality assurance policies and procedures are being followed and/or updated.

The responsibility for maintaining quality of technical operations (both field and office), data collection and analysis, data management and evaluation, documentation and reporting is shared by all operational, technical and management personnel. All work shall be performed in accordance with the standards of our profession and technical expertise, accepted quality practices, and applicable regulations. In absence of specific guidelines, they will follow appropriate scientific or technical judgment.

The SECOR Quality Management Program will be based upon applicable guidelines of the American Society of Quality Control (ASQC), the United States Environmental Protection Agency (and project relevant state and local agencies), and the American Society for Testing and Materials (ASTM). Standards will be traceable to the American National Standards Institute (ANSI), National Institute of Standards and Technology (NIST), and other authoritative reference.

Organization

Ultimately, the responsibility to deliver high quality products and service in a quality manner to our clients is the responsibility of the President and Chief Executive Officer. The Vice President of Technical Programs and Corporate Quality Assurance Officer, in cooperation with the Chief Operating Officer (COO), are responsible for management of the SECOR Quality Management Program as depicted in Figure 1. Technical Service Program Directors are responsible for program development, implementation and maintenance.

Technical Service Program Directors provide technical support to the Regional Managers, National Account Managers and Business Line Managers. Regional operations management and client/business line resource management staff have daily responsibility for the technical resources of the company. Therefore they are required to assist Technical Service Program Directors in ensuring that the program is implemented and enforced during the routine conduct of all work activities in their regions. Regional Managers and client-project management are responsible for preparation and day-to-day implementation of quality procedures applicable to their work.

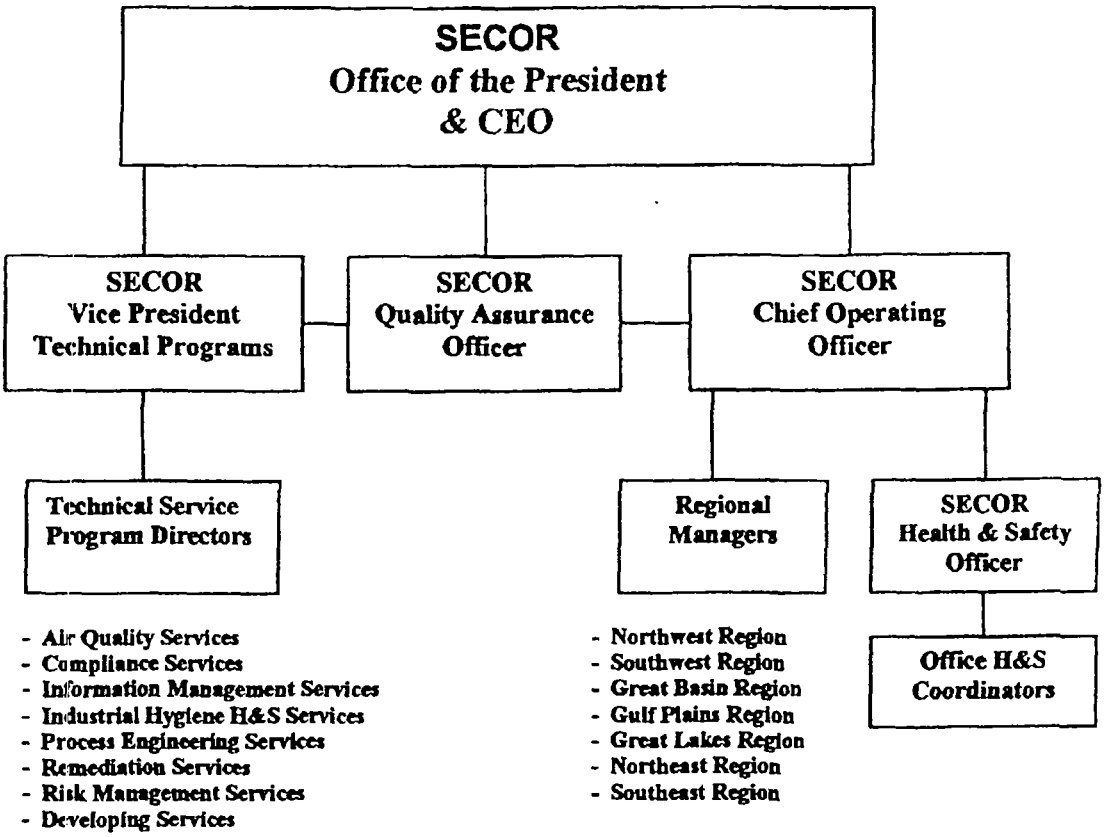
The responsibilities of the Corporate Quality Assurance Officer are to:

- Provide overall direction and coordination of the SECOR Quality Management Program and prepare semi-annual status reports for executive management;
- Implement a system to solicit feedback from clients regarding quality of products delivered;
- Render advice and solicit comment to/from corporate, operational, and client management as required to maintain and support the corporate quality management policies and programs;
- Ensure that Standard Operating Procedures (SOP'S) are developed and distributed under a document control system;
- Maintain a Library as an archive for QA/QC records and as a distribution center for SOP'S;
- Assist Technical Service Program Directors with implementation and maintenance of their technical service-specific quality management programs; and
- Implement and manage the QC portion of the program including periodic performance audits and verification of corrective action.
- The responsibilities of the Technical Service Program Directors for their discipline-specific service areas are to:
- Lead the development of their technical service-specific quality management programs;
- Assist the client-project managers in implementation of client-specific QA requirements,

- Ensure SOP's are developed for all quality related functions and distributed to all personnel involved in that function;
- Monitor performance, provide feedback and training, and revise SOP's as necessary to maintain the desired quality of products and services;
- Actively consult with technical staff and project managers on quality standards applicable to specific projects;
- Report to the Corporate Quality Assurance Officer all quality assurance activities and results.

FIGURE 1

SECOR QUALITY MANAGEMENT PROGRAM ORGANIZATION



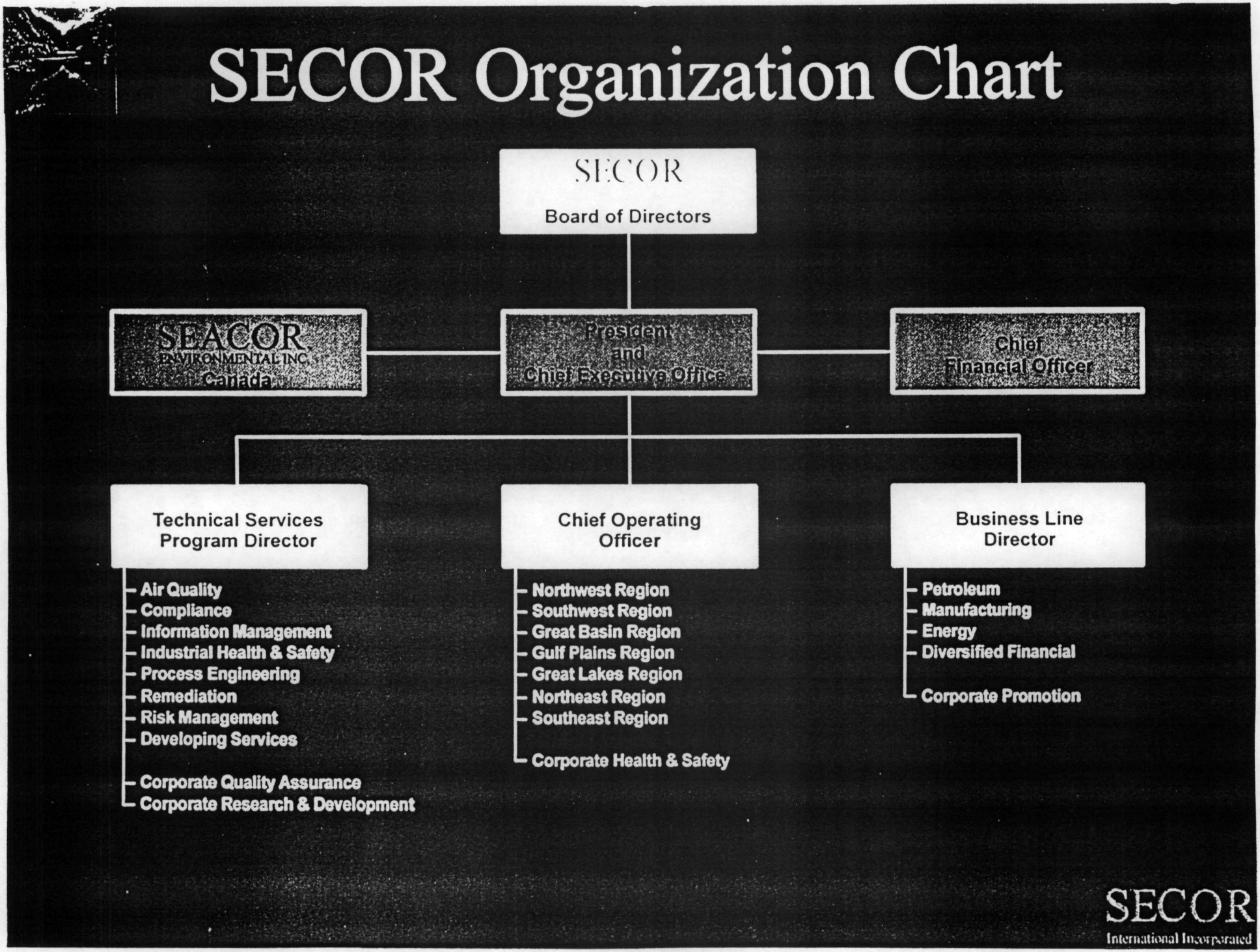
ACCEPTANCE SIGNATURES

SIGNATURE	TITLE	DATE
James Vais	President and Chief Executive Officer	3/7/02
Steve Locke	Chief Operating Officer	03/7/02
Stephen Andersen	Vice President of Technical Programs	01/24/02
James Kerr	Corporate Quality Assurance Officer	02/20/02
James Christopher	Air Quality Services Director	01/29/02
Don Farrell	Compliance Services Director	01/29/02
Robert Braisted	Information Management Services Director	01/31/02
Phillip Platcow	Industrial Hygiene H&S Services Director	03/4/02
Kristine Burgess	Process Engineering Services Director	03/07/02
James Burns	Remediation Services Director	
Larry Dziuk	Risk Management Services Director	01/28/02
Daniel Oberle	Research and Development Director	02/04/02

APPENDIX B

Organization Chart

SECOR Organization Chart



APPENDIX C

Health and Safety Policies and Procedures Manual

SECOR INTERNATIONAL INCORPORATED
U.S.
HEALTH AND SAFETY
POLICIES AND PROCEDURES
MANUAL

U.S.
HEALTH AND SAFETY
POLICIES AND PROCEDURES MANUAL

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APPENDICES

Appendix A: Standard Safety Procedures

REV.: 11/01/99

HEALTH AND SAFETY PHILOSOPHY

- *SECOR* believes that all job-related injuries and illnesses can be prevented. This belief is the cornerstone of our strategy in approaching health and safety. It affects our attitude to unsafe acts and conditions, and causes us to investigate incidents that could have caused injury or illness.

- Because of this belief, all levels of management are responsible for health and safety.

- Working safely is a condition of employment for everyone. Health and safety are an important aspect of our evaluation of all employees' work. This assessment can affect promotions and raises. Persistent or significant disregard of health and safety may be cause for dismissal from the company.

- *SECOR* holds that prevention of injuries and illness is good business.

James L. Vais, President and CEO

11/3/99
Date

1.0 PURPOSE

The *SECOR* Health and Safety Policies and Procedures Manual is designed to ensure safe and healthful working environments for all *SECOR* employees. This Policy is established to define specific responsibilities and to ensure proper implementation of the *SECOR* Health and Safety Program, particularly in support of the site specific Health and Safety Plans (HASPs) that are written and followed for most *SECOR* projects.

2.0 SCOPE

This Policy applies to all *SECOR* personnel in work locations throughout the United States.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the review and approval section of *SECOR'S* Safety and Health Plans (HASPs).

4.0 RESPONSIBILITIES

4.1 Executive Management

Executive Management, including the President, Chief Executive Officer, and Chief Operating Officer of *SECOR* International Incorporated is ultimately responsible for the health and safety of all *SECOR* employees. Executive Management will prepare the *SECOR* Health and Safety Philosophy; provide Corporate Health and Safety personnel and other health and safety professionals and resources sufficient to develop and maintain a comprehensive health and safety program; ensure management support at all levels to implement the program; review accidents, injuries, and other incidents and ensure that appropriate corrective actions are taken; review and authorize all health and safety policies; and ensure that employees are encouraged to report unsafe work practices or conditions.

4.2 Corporate Health and Safety

Corporate Health and Safety personnel will report to the Vice President of Human Resources and coordinates the *SECOR* Health and Safety Program. Corporate Health and Safety will develop policies and procedures, conduct an ongoing quality assurance program, advise and consult with Executive Management and Principals-in-Charge, maintain corporate records,

and lead regular conference calls with the Health & Safety Coordinators to discuss policies, procedures, and current health and safety issues.

Corporate Health and Safety will coordinate evaluation of reported injuries, illnesses, and other incidents with the Vice President of Human Resources, Corporate Administration, and Executive Management as necessary.

4.3 Principal-in-Charge

Principals-in-Charge report to the President and Chief Executive Officer. They have overall responsibility for implementing health and safety policy and procedures for their respective offices, laboratories, and field projects. Each Principal will designate a Health & Safety Coordinator in consultation with Corporate Health and Safety.

4.4 Health & Safety Coordinator

Each Health & Safety Coordinator reports to a Principal-in-Charge. A Health & Safety Coordinator may be responsible for one or more offices managed by a Principal-in-Charge. They coordinate preparation, review, logging, and archiving of Health and Safety Plans (HASPs), maintain up-to-date training and medical surveillance, conduct record keeping, assist in field and office inspections and injury/illness and incident reporting and investigations, participate on conference calls, and consult with Corporate Health and Safety. The Health & Safety Coordinator will be allowed reasonable indirect time to adequately complete their job as necessary.

4.5 Vice President of Human Resources

The Vice President of Human Resources will coordinate with Corporate Health and Safety on evaluation of injuries, illnesses, and other incidents; administer the Workers' Compensation program; and provide regular reports of new hires and terminations to Corporate Health and Safety for tracking of training and medical surveillance.

The Vice President of Human Resources will review client contract requirements for drug and alcohol screening and inform Corporate Health and Safety of affected employees so that the medical subcontractor and Health & Safety Coordinators can be notified to schedule such screenings. Human Resources will maintain records of affected employees and testing results. In addition to annual drug and alcohol screening for field personnel, *SECOR* implemented pre-employment physicals to include drug and alcohol screening.

4.6 Project Manager and Manager

Project Managers and Managers (e.g. accounting, facilities, contracts, laboratory) report to a Principal-in-Charge. Project Managers have responsibility for health and safety on their field projects, and Managers within their office, laboratory, storage, or other work areas. Project Managers will adequately bid time for health and safety on their jobs and inform the Health & Safety Coordinator as soon as they are assigned a project to provide adequate time for Health and Safety Plans (HASPs) preparation.

4.7 Employee

Every employee has personal responsibility for his or her own health and safety on the job. Employees will advise their supervisor or manager of any unsafe practices or conditions, and support fellow employees in maintaining a safe working environment. They must report injuries, illnesses, or other incidents (e.g., car accidents or other property damage, regulatory inspections, etc.) to the Project Manager or Principal-in-Charge immediately, and initiate an Injury/Illness or Site Incident Report. Employees will follow the Health and Safety Plans (HASPs), Standard Safety Procedures, or other aspects of this Manual as it applies to their job at all times.

Not following verbal or written safety procedures, guidelines, rules, horseplay, and failure to wear or abuse of selected personal protective equipment, will result in disciplinary action. Additionally, physical inspections by SECOR project and company management that shows an overall lack of commitment to company safety goals will also result in disciplinary action.

In these cases, the project or company manager will meet with the employee to discuss the infraction and inform the individual of the rule or procedure that was violated and the corrective action to be taken.

5.0 REFERENCES

- 29 CFR 1926.65, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

Through the development and implementation of a site-specific Health and Safety Plans (HASPs), *SECOR* ensures that all known and expected hazards at a remediation site have been factored into the work and emergency planning process. Additionally, Health and Safety Plans (HASPs) establish compliance with applicable regulatory requirements, and is required for all field locations involving hazardous waste operations. (Refer to Appendix B: Health and Safety Plan Template and Policy 5.0 (Section 3.0): Subcontractor Personnel.)

2.0 SCOPE

A material is considered to be ***hazardous*** if it exhibits one or more of the following characteristics: Toxic, Reactive (with water or air), Ignitable (flashpoint >140°C) or Corrosive (pH <2.0 or >12.5), as defined by Title 40 Code of Federal Regulations (CFR).

Site-specific Health and Safety Plans (HASPs) will be written for the following situations:

- Cleanup operations and initial investigations required by a governmental body, whether federal, state or local, and private clients involving hazardous substances conducted at uncontrolled or controlled hazardous waste sites;
- Corrective actions involving cleanup operations at landfills or other treatment, storage, and disposal facilities;
- Environmental Impact Assessment investigations involving hazardous material;
- Whenever hazardous materials or waste may be encountered during drilling, excavating, subsurface sampling, remediation, or related environmental assessment or engineering activities; and
- Other operations as determined by Corporate Health and Safety.

Certain projects **do not** fall under the auspices of hazardous waste operations regulations, but still need to be reviewed by Corporate Health and Safety before the start of fieldwork. A special Health and Safety Plan may be required. Examples may include construction, source testing (stack sampling), and confined space entry.

Additional exemptions to writing Health and Safety Plans (HASPs) involve record searches, paper work, preliminary site assessments with no hazardous materials or environmental sampling, and other operations as approved by Corporate Health and Safety.

3.0 RESPONSIBILITIES

3.1 Corporate Health and Safety and Health & Safety Coordinators

All Health and Safety Plans (HASPs) must be approved and signed by Corporate Health and Safety or delegated qualified Health & Safety Coordinators, before fieldwork begins. Corporate Health and Safety should approve any significant changes to the basic Health and Safety Plan template.

Health and Safety Plans (HASPs) should have an expiration date no later than six months from the first day of field work, or sooner if field work is completed earlier, there is a change in the scope of work, or exposure limits (e.g., Permissible Exposure Limits or Threshold Limit Values) have been exceeded.

A copy of the Health and Safety Plan must be in a readily accessible health and safety file in addition to the project file. The Health & Safety Coordinator will review the field Health and Safety Plan for completeness, and debrief the job with the Site Health and Safety Officer, Project Manager, Corporate Health and Safety, and/or Principal-in-Charge, as appropriate.

3.3 Project Manager

The Project Manager is responsible for informing the Health & Safety Coordinator of all jobs requiring a Health and Safety Plan (HASP), assuring a current Health and Safety Plan (HASP) is available for each job as appropriate, and for its implementation in the field. The Project Manager must inform any subcontractors whom they will cover under a *SECOR* Health and Safety Plan (HASP) before the first day of field work, so they are aware of training, medical, personal protective equipment, and respirator fit-testing requirements.

Upon completion and approval of the Health and Safety Plan (HASP), the Project Manager must make a copy of it available to all field personnel before the start of the job, including affected subcontractor personnel. The Project Manager will assure Attachment 1 (Employee Training and Medical Surveillance Record), Attachment 2 (Subcontractor Training and Medical Surveillance Record), Attachment 3 (Utility Clearance Log), and Attachment 4 (Utility Clearance Map) of the Health and Safety Plan are completed before job start, and all

signatures on the Review and Approval page have been secured (Author, Project Manager, Health & Safety Coordinator, Site Health and Safety Officer, and Corporate Health and Safety).

Project Managers should notify Corporate Health and Safety within 24 hours if exposure limits are exceeded, or if personal protective equipment is upgraded from Level D to C, or from C to B.

3.4 Site Health and Safety Officer

The Site Health and Safety Officer will assist the Project Manager in assuring field implementation of the Health and Safety Plan (HASP) , including the completion of Attachment 5 (Air Monitoring Equipment Calibration/Check Log), Attachment 6 (Air Monitoring Log), Attachment 7 (Daily Health and Safety Briefing Log), and Attachment 8 (Acknowledgment and Agreement Form). The Site Health and Safety Officer will provide a copy of the Health and Safety Plan (HASP) with completed Attachments to the Health & Safety Coordinator within 24 hours of the expiration date of the job. Any injuries, illnesses, property damage, or other site incidents must be reported immediately to the Project Manager. Notify the Health & Safety Coordinator no later than the end of work that day if an exposure limit has been exceeded or personal protective equipment has been upgraded.

The Site Health and Safety Officer should be available at all times while the Health and Safety Plan (HASP) is in effect.

4.0 MODIFICATION OF THE HEALTH AND SAFETY PLAN

Once field operations begin, it may be necessary to modify Health and Safety Plan (HASP) content should it be determined that the hazards, site operations, personal protective equipment, protective procedures, emergency or other information need to be revised.

Should this occur, all proposed modifications to the Health and Safety Plan (HASP) will be reviewed and approved by Corporate Health and Safety or the Health & Safety Coordinator before such changes are implemented.

5.0 REFERENCES

- OSHA 29 CFR 29 CFR 1926.65 "Hazardous Waste Operations and Emergency Response", *Code of Federal Regulations*.

- EPA Office of Emergency and Remediation Response Team Standard Operating Safety Guidelines
- NIOSH Pocket Guide to Chemical Hazards
- NIOSH/OSHA/US Coast Guard/EPA Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities
- American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values

1.0 PURPOSE

The primary purpose of the Medical Surveillance Program is to regularly monitor and evaluate the health status of designated employees such as those working in the field or in laboratories.

2.0 SCOPE

This Policy pertains to all employees who work in field or laboratory operations. Identified personnel are required to complete a company-sponsored medical examination before beginning field/lab work, periodically, and before their last day of employment at *SECOR*. Asbestos exams or other special tests may be necessary as well, especially for any incidents related to chemical exposures or accidents.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part B, ***Minimum Training, Respirator Fit-Testing, and Medical Surveillance Requirements for Site Personnel***
- Attachment 1 – ***Employee Training and Medical Clearance Record***

4.0 RESPONSIBILITIES

4.1 Corporate Health and Safety

Corporate Health and Safety will review field, office, and laboratory activities and consult with Human Resources regarding industrial hygiene sampling or biomonitoring considerations.

4.2 Principal-in-Charge

Each Principal-in-Charge will assure that no employees perform work without appropriate medical clearance.

4.3 Health & Safety Coordinator

The Health & Safety Coordinator is responsible for maintaining up-to-date medical clearance records, and scheduling employee examinations with the designated clinic. She or he retains employee health monitoring booklets (as provided by the medical subcontractor) for distribution to the employee before the exam appointment. Before the scheduled exam, the Health & Safety Coordinator must contact the medical contractor by fax via the Authorization For Medical Examination form.

4.4 Employee

The employee must provide the designated clinic an Authorization For Medical Examination form (MAF) and completed monitoring booklet at the time of the examination. All employees are required to complete exams as directed by Corporate Health and Safety and the Health & Safety Coordinator.

5.0 ELEMENTS OF THE MEDICAL SURVEILLANCE PROGRAM

5.1 General Procedure

This procedure applies to all field staff, including permanent, temporary, and hourly-as-needed employees.

Each Health & Safety Coordinator is responsible for maintaining the medical surveillance program for his or her respective office(s). The Health & Safety Coordinator schedules employees for exams and gives them an Authorization For Medical Examination form (Appendix C) and a History and Physical Examination Booklet for completion before their exam. There are four different exam booklets: 1) green book for initial exams; 2) yellow book for periodic exams; 3) blue book for an initial exam that includes asbestos surveillance; and 4) pink book for a periodic exam that includes asbestos surveillance. The employee must present the completed Authorization For Medical Examination form and the necessary exam booklet(s) to the designated clinic at the time of the exam. They must fax the Authorization For Medical Examination form to the medical provider and to the clinic where the exam will be performed at least 24 hours before the exam.

5.2 Initial, Periodic and Exit Exams

All field employees must be currently certified or cleared by The Western Center before performing any fieldwork. If there are any medical restrictions and/or limitations, the

employee, Health & Safety Coordinator, Principal-in-Charge, Corporate Health and Safety, and Human Resources will be notified by "Confidential Memorandum."

1) A new employee's exit exam from a previous employer may be considered for use as an *initial exam* if it was completed within the last six months of their start date with *SECOR*. The new employee should forward a copy of the exit exam results along with their full name, office number, home address and phone number to the medical provider. Upon approval, the medical provider will send a written opinion to Corporate Health and Safety and a letter to the home of the employee. The opinion will either indicate a "clean bill of health," "restrictions and/or limitations," or "additional testing." A periodic exam is necessary no greater than twenty-four months from the date of the exit exam.

   If a new employee has not had an exam within the last six months, an initial exam must be completed and the written opinion must indicate a "clean bill of health" before working in the field.

   As a minimum requirement, *SECOR* requires that all field employees receive a urine drug screening and a breath alcohol screening prior to employment, and periodically thereafter. As some *SECOR* clients may require annual and/or random drug and alcohol screening, *SECOR* will require these individuals to be urine drug and breath alcohol screened per client contract, to maintain employment.

2) A periodic *exam* should be scheduled by the Health & Safety Coordinator and completed by the employee before the expiration date of the last exam to continue fieldwork. A written opinion will be forwarded to Corporate Health and Safety and a letter sent to the home of the employee with the results of the exam.

   NOTE: For employees who are required to wear a respirator greater than 30 days per calendar year, and/or have worked with asbestos containing materials within the past twelve months, an *annual exam* shall be scheduled by the Health & Safety Coordinator and completed by the employee before the expiration date of the last exam to continue field work.

3) An *exit exam* is necessary for all field employees before their last day of work. Since an exit exam may not be the same for every employee, Corporate Health & Safety Manager may contact the medical provider regarding what kind of exit exam will be needed. A more limited exit exam protocol may be authorized, based on time since the last exam and level of fieldwork (e.g., if the last exam was 6 or less months ago).

Corporate Health and Safety will obtain written confirmation from the contractor physician for a limited exit exam protocol, schedule the exam, and contact the employee, Health & Safety Coordinator, and Principal-in-Charge via letter with appointment information.

5.3 Asbestos Exams

An asbestos exam is warranted if an employee is engaged in asbestos work of any kind, and must be indicated on the Authorization For Medical Examination form. Either a blue (initial) or pink (periodic) exam booklet must be completed by the employee before the exam. Asbestos exams are performed at the time an initial, periodic or exit exam takes place.

5.4 Special Exams/Tests

All special exams/tests must be pre-authorized by Corporate Health and Safety. Special exams/tests can include: drug and/or alcohol screening, radiation monitoring, heavy metal testing, and various x-rays, blood, urine or other unique tests other than those listed in the initial, periodic and exit exam protocols on the Authorization For Medical Examination form.

5.5 Medical Records Confidentiality

The confidential nature of medical records will be observed by the contractor physician and his or her representatives. However, employees may contact Corporate Health and Safety for an authorization form to request a copy of their records through the medical contractor. They do not make disclosure of information from an employee's record without his or her written consent, except as may be required by law.

The contractor physician is responsible for maintaining confidentiality, retaining medical records, and analyzing and reporting a summary of exam results to *SECOR*.

6.0 SECOR DRUG AND SUBSTANCE ABUSE PROGRAM

6.1 SCOPE

This policy applies to all employees and locations of SECOR.

6.2 DEFINITIONS

Illicit Drugs: Illicit drugs refer to those substances covered under the Federal Controlled Substances Act, as amended. Illicit drug involvement refers to the use, possession, purchase, exchange or sale of those same substances, or to the presence of illicit drugs in any screening performed under this policy.

Substance Abuse: Substance abuse refers to the excessive use or misuse of any drug, including prescription drugs or alcohol, in a manner that has an adverse impact on job performance.

Screening: Screening refers to the process by which an employee demonstrates the absence (or presence) of illicit drugs or alcohol in his or her body by submitting, through procedures prescribed by SECOR, a urine and/or breath sample for illicit drug and alcohol testing by an independent National Institute on Drug Abuse (NIDA) certified laboratory designated by SECOR or its clients.

6.3 POLICY

It is the policy of SECOR that the use, possession, distribution, sale, or manufacture of any controlled substance, including alcohol is prohibited on any SECOR property or the property of any of our clients. Additionally, SECOR employees may not enter or work within any client site or on any work site owned or controlled by SECOR or our clients while there is a measurable presence of any controlled substance in their bodies.

Violation of this policy is cause for termination and/or permanent revocation of the privilege of entry into any client work site.

CONTROLLED SUBSTANCES AND PROHIBITED DRUGS

It is the intent of this guideline to exclude from the work place all substances and drugs which are illegal or controlled under the laws of the United States of America or other states in which our clients work sites are located, and all drugs and substances, including alcohol, which impair an individual's ability to safely and competently perform work. In addition to controlled substances this guideline applies to "synthetic or designer" drugs, "look-alike" drugs, and all prescription drugs used without a current prescription issued by a licensed physician or used in an amount greater than prescribed. If there is any question as to whether or not a substance is prohibited by this guideline, the decision of the Corporate Doctor will govern.

SECOR expects employees engaged in illicit drug use or substance abuse to obtain treatment or to seek employment elsewhere. SECOR will allow clients to perform unannounced audits of our alcohol and drug program to verify that our policy and

enforcement is acceptable to them.

SUBCONTRACTORS

In all cases where SECOR is permitted to employ a subcontractor, SECOR is responsible for ensuring that the subcontractor and its employees are in compliance with the provisions of this guideline.

6.4 EMPLOYEE SCREENING

Drug Test Program which includes the following tests:

a. **Pre-employment/pre-access testing:** Each employee and sub-contract employee requiring access to client work sites will have a comprehensive drug screen by urinalysis within 90 days immediately preceding initial request for access to client work sites. Letters certifying pre-access testing will be signed by a member of management who is at least one level above the affected employee's immediate supervisor except in those cases where the immediate supervisor is also the contractor's/sub-contractor's owner or chief officer. A single letter to clients requiring proof of certification of negative test results for all employees requiring site access is acceptable.

   For each employee requiring access, SECOR will obtain a consent form signed by the employee which grants consent for the contractor to release to all clients requesting results of any drug screen test.

b. **Post-accident testing:** Immediately following or no later than 32 hours after any event which results in an OSHA recordable bodily injury, a D.O.T. reportable incident, or damage to any client or SECOR-owned property, SECOR will conduct a drug screen by urinalysis and/or appropriate blood alcohol test on those employees whose performance contributed to the accident or cannot be completely discounted as a contributing factor. Similarly, drug screen tests and/or appropriate blood alcohol tests may be required following a near-miss incident. A near miss is defined as any incident which, if it had proceeded would have had the potential for personnel injuries, extensive property damage, or serious liability claims.

c. **Reasonable cause testing:** Any employee will be substance tested when there is reasonable cause to believe that employee is using a prohibited substance. The decision to test will be based on observable specific, contemporaneous physical, behavioral, or performance indicators associated with such use. The decision to require an employee to be tested for reasonable cause will be made by contract

supervision with the approval of the Human Resources Department. Clients will have the right to deny such employee access to the site pending receipt of the test results.

d. **Return to work testing:** SECOR will demonstrate that any employee who seeks access to the client work site has passed a drug test and is approved by medical review for return to work. SECOR will also insure that the employee in question is subject to a reasonable follow-up program which includes unannounced drug testing.

e. **Random Testing:** In some instances, SECOR will do random selection for testing by use of random number tables, or a computer-based random number generator. Tests will be scheduled evenly throughout the year and annually will be equal to one half the number of employees working on sites required by specific clients.

Appointment of a Medical Review Officer who will have the following duties and responsibilities:

a. Must be a licensed physician with knowledge of drug abuse disorders.

b. Review and interpret confirmed positive test results to ascertain validity and any alternate medical explanation for a confirmed positive result.

c. Manage "return to work" program for SECOR's personnel after their completion of a rehabilitation exercise, including fitness for work determination and a schedule for unannounced follow-up testing.

Instituting an Employee Assistance Program which has the following elements:

a. Training for supervisors who will be required to determine whether or not an employee is to be drug tested based on reasonable cause. This will be administered through at least one annual session covering the specific, contemporaneous physical, behavioral, and performance indicators of possible drug use.

b. Education of the on site work force through SECOR's policy regarding the use of drugs.

Use of an approved drug-testing laboratory. To be approved the laboratory must be certified by the Department of Health and Human Services under the D.O.T. Procedures.

SECOR will insure that the laboratory used will permit inspections by the contractor before award of a testing contract and unannounced inspections at any time by the contractor, the D.O.T. Administrator, or any other state agency representative who might have jurisdiction in the matter.

Custody, retention, and retesting of samples are to be handled as follows:

a. Samples that yield positive results on confirmation must be retained by the laboratory in frozen storage for at least one year.

b. If there is no legitimate medical explanation for a confirmed positive test result other than the unauthorized use of a prohibited drug, the original sample must be retested if the employee makes a written request for retesting within 60 days of receipt of the final test result from the MRO.

c. If the employee specifies retesting by a second laboratory, approved chain-of-custody procedures must be followed in transferring the sample.

d. Since some analytes may deteriorate during storage, detection levels of the drug equal to or greater than the established sensitivity of the assay, must, be reported and considered supportive of the original positive results.

e. For all drug screen testing and/or blood alcohol testing required by this guideline, SECOR has sole responsibility for the collection of samples, transmission of samples to the laboratory, and receipt and maintenance of reports. The choice of the laboratory to be used is also the responsibility of the contractor, but requires prior approval by some clients to insure compliance of the approved drug testing laboratory procedures.

Recordkeeping requirements by the contractor for this program are as follows:

a. Records that demonstrate collection process (3 years).

b. Records of employee drug test results that show employees failed a drug test, and the type of test failed, and records that demonstrate rehabilitation, if any (5 years). These records will also include the employee's job function, age, prohibitive drug used, and disposition.

c. Records of employee drug test results that show employees passed a drug test. (1

year).

d. Records of the number of employees tested, by type of test. (5 years).

e. Records confirming that contractor's supervisors and employees have been trained as required by this guideline (3 years).

NOTE: Information regarding an individual's drug testing results or rehabilitation may be released only upon the written consent of the individual, except that such information must be released regardless of consent to the Administrator of the Research and Special Programs Administration of the U.S. Department of Transportation ("Administrator") or the representative of a state agency upon request as part of an accident investigation. Statistical data related to drug testing and rehabilitation that is not name-specific and training records must be made available to the Administrator or the representative of a state agency upon request.

Compliance Audits

SECOR will abide by certain client regulations to periodically audit personnel and other records to verify that:

1. Tests are being conducted as required.

2. Procedures for handling samples establish a chain of custody which prevents tampering and switching of samples.

3. The laboratory being used has been approved by certain clients and is conducting tests using a scientifically sound method.

Tests and Reporting Results

SECOR will insure that the drug screen by urinalysis tests conducted to fulfill the requirements of this guideline must be capable of detecting the following classes of drugs: amphetamines, cannabinoids, cocaine, opiates, and phencyclidine. Testing procedures are to be D.O.T. protocols. Certain clients reserve the right to specify tests for other or additional drugs. Testing for drugs not currently included in the D.O.T. procedures must be done using a separate sample and test.

Drug test results must be considered to be positive when the laboratory is able to certify

the presence of a prohibited substance in an amount in excess of the test levels specified in the Department of Transportation regulations, 49 CFR 40 in the urine sample. Alcohol blood tests must be considered positive when there is an alcohol concentration equal to or exceeding the intoxication level recognized by the State in which the test is being taken.

No positive result is to be considered as a final confirmed result until the same urine sample has been retested using gas chromatography/mass spectrometry.

In the event there is a delay between the receipt of a positive result on a drug screen and the receipt of the result of confirmation test(s), SECOR must ensure that the employee involved is removed from the client work site until a final confirmed result is received.

All positive results on tests conducted before client site access credentials have been issued are to be considered to be a confidential matter between SECOR and the employee and will not be disclosed by any client. **For all tests conducted after client site access credentials have been issued, SECOR must report confirmed positive results to each client requiring such.**

Prescription and Nonprescription Drugs

1. SECOR employees and affiliated personnel, such as agents or subcontractors, will be subject to screening when required may continue to work on client work sites while taking prescription or nonprescription drugs needed for the treatment of an illness provided that the medications do not affect the employee's ability to perform work safely and competently. The employee is responsible for being aware of and following all cautions associated with the use of prescription and nonprescription drugs.

2. Nonprescription, or over-the-counter drugs must be taken in accordance with the manufacturer's dosage recommendations and usage cautions and must not affect the employee's ability to perform work safely and competently.

   Prescription drugs must be carried in their original dispensing container and taken only in prescribed dosage. The prescription must be in the employee's name and must not be more than one year old.

3. Any employee who refuses to comply with a properly authorized screening requirement under 1 (Prescription and Nonprescription Drugs) will be ineligible to work in positions subject to such requirements. If no suitable alternative work

assignment is available, the employee will be subject to layoff. Any employee who fails to pass a screening requirement under 1 (Prescription and Nonprescription Drugs) will be ineligible to remain in any position subject to such screening requirement and will be subject to disciplinary action up to and including termination of employment.

6.5 Searches and Inspections

SECOR recognizes and has informed its employees and subcontractors that some of its clients may:

*Conduct unannounced inspections of vehicles and their contents upon entering, leaving, and while on client's worksite.

*Conduct unannounced inspections of worksite property including office desks, field areas, building equipment, lockers, toolboxes, and vehicles.

*Conduct unannounced searches and inspections of all personal property including purses, briefcases and lunch boxes.

*Use professional investigators and trained search dogs to assist in surveillance, inspections and searches.

Any illegal or controlled substances found during inspections or searches will be destroyed or turned over to law enforcement authorities as appropriate.

NOTICE: SECOR will be responsible for ensuring that each of its employees and its subcontractor's employees are informed of the provisions of this guideline and of the consequences of failure to comply, before site access credentials are requested.

FAILURE TO COMPLY

The failure by SECOR to comply with the provisions of this guideline constitutes cause for cancellation by some clients of their contracts.

The failure of any SECOR employee to comply with the provisions of these guidelines constitutes cause for revocation of that employee of the privilege of access to client's worksite(s). The refusal of any SECOR employee to submit to any test, search or inspection required by this guideline constitutes a failure to comply and may result in

permanent revocation for that employee to client worksites and possible termination of that employee.

6.6 CONFIDENTIALITY

All information and records concerning individual screening results shall be kept strictly confidential and maintained separate from employee personnel files. Only the Vice President of Human Resources and other members of management with a need-to-know shall have access to individual screening results.

7.0 REFERENCES

- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

The objective of this policy is to outline the general safety training and documentation required for hazardous waste operations, asbestos, laboratory and other work performed by *SECOR*.

2.0 SCOPE

This policy applies to all field and laboratory employees. (Also see Policies 6.0-Personal Protective Equipment, 9.0-Respiratory Protection Program, 10.0-Hazard Communication Program, and 14.0-Hearing Conservation Program).

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This policy supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part B, ***Minimum Training, Respirator Fit Testing, and Medical Surveillance Requirements for Site Personnel***
- Attachment 1 – ***Employee Training and Medical Clearance Records***

4.0 RESPONSIBILITIES

4.1 Corporate Health and Safety

Corporate Health and Safety will specify general training required.

4.2 Principal-in-Charge

The Principal-in-Charge will assure all their employees have received specified training. The Principal-in-Charge will determine what training, certification, or registration may be required beyond the general requirements.

4.3 Project Manager

Project Managers will verify that all employees assigned to their projects have up-to-date training.

4.4 Health & Safety Coordinator

Health & Safety Coordinators will schedule and maintain a current file of general and specialized training for their respective offices. Copies of certificates of training should be sent to Corporate Health and Safety.

The Health & Safety Coordinator will assure any 40-hour Hazardous Waste Operations instructors used by their office agree to and sign a copy of the *SECOR* Hazardous Waste Operations Training Vendor Requirement forms (see Appendix C-11). The Health & Safety Coordinator will maintain a file of these forms.

5.0 HAZARDOUS WASTE OPERATIONS TRAINING

Before engaging in fieldwork, *SECOR* employees will complete the following training:

- 40-hour Hazardous Waste Operations (Initial);
- 8-hour Hazardous Waste Operations Refresher (Annually).

Additionally, the following training is required by Secor employees engaged in field activities:

- Injury and illness prevention (Initial)
- Personal protective equipment (Initial)
- Emergency action plans ((Initial)
- Fire prevention (Initial and Annual)
- Hazard Communication (Initial)

Specialized training can be given, which includes the following topics:

- Fire extinguishers (Initial and Annual)
- Lockout/Tagout (Initial)
- First Aid/CPR (Initial and Annual)
- Hearing protection if over 85 dBA (Initial and Annual)
- Respirators (Initial and Annual)
- Confined Space Training (Initial)
- Chemical Hygiene for Lab Personnel (Initial)
- Lead (As needed)
- Cadmium (As needed)
- Asbestos (As needed)

- Formaldehyde (As needed)
- Benzene (As needed)

A Secor employee serving in the capacity of Site Health and Safety Officer will also have 8-hour Hazardous Waste Operations Supervisor's training, and current certification in Basic First Aid and Cardiopulmonary Resuscitation.

6.0 REFERENCES

- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

SECOR subcontractors may be assigned to work in hazardous waste or other operations. The health and safety of field personnel in these situations is of primary importance. Therefore, it is *SECOR's* intent to assure that they reduce these risks through preparation and application of site Health and Safety Plans or other documents as determined by Corporate Health and Safety.

2.0 SCOPE

This Policy applies to all field projects for which *SECOR* employs a subcontractor. The following defines *SECOR's* responsibilities with respect to subcontractors and overall site health and safety control.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This policy supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part A, ***Health and Safety Plan Responsibilities***
- Attachment 2 – ***Subcontractor Training and Medical Clearance Record***

4.0 RESPONSIBILITIES

4.1 Project Manager

The Project Manager will clarify the contract/client requirements and responsibilities pertaining to *SECOR's* involvement with subcontractors, and amend the Health and Safety Plan as necessary (Appendix B, Sec. II(A)). The Project Manager will assure all subcontractors are bound by a *SECOR* Master Services Agreement or other contract approved by the Contracts Director. The Project Manager should endeavor to use the most experienced contractors with established safety protocols and the best safety records. The Project Manager will also assure that the subcontractors insurance documents are up to date; that their employees have the necessary and required certification; and that all data is current and up to date.

When a Health and Safety Plan is required, *SECOR* subcontractors will prepare and adhere to their own Health and Safety Plan. *SECOR* subcontractors may refer to the *SECOR* Health

and Safety Plan for guidance only. Subcontractors will work under a *SECOR* Health and Safety Plan only when all subcontractor tasks are included in the Health and Safety Plan and *SECOR* has overall responsibility for health and safety on the site.

4.2 Site Health and Safety Officer

The Site Health and Safety Officer must remain available at all times during subcontractor activity, if that subcontractor falls under the auspices of a *SECOR* Health and Safety Plan.

When a subcontractor is adhering to a *SECOR* Health and Safety Plan, the subcontractor field supervisor or manager must sign the Review and Approval page and the Subcontractor Training and Medical Surveillance Record of the Health and Safety Plan. The subcontractor's employees must sign the Acknowledgment and Agreement Form of the Health and Safety Plan.

NOTE: It is *SECOR's* policy not to supply health and safety equipment to its subcontractors or other non-*SECOR* personnel unless contractually required and/or authorized by the Corporate Health and Safety Manager.

5.0 REFERENCES

- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

In conducting work, not all hazards can be eliminated by engineering or other mechanical/work planning/process controls. Some operations, especially short-term maintenance, hazardous materials abatement, and radiological work cannot be performed without the use of Personal Protective Equipment (PPE). This standard explains the process of selecting, training in use, and maintenance of PPE and that PPE meets the current standards. This standard does not cover respiratory protection, which is covered by a separate standard.

2.0 SCOPE

All employees and subcontractors covered under a *SECOR* Health and Safety Plan are required to follow and adhere to minimum levels of personal protective equipment as specified in the Health and Safety Plan (HASP) when conducting work-related activities.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section I, Part C, ***Personal Protective Equipment Requirements***
- Section V, Part I, ***Perimeter Identification and Personal Protective Equipment***

4.0 RESPONSIBILITIES

4.1 Corporate Health and Safety

Corporate Health and Safety will approve personal protective equipment requirements for *SECOR* field and laboratory work.

4.2 Health & Safety Coordinator

Health & Safety Coordinators are the personal protective equipment administrators for their office(s). They have responsibility for coordinating purchase and maintenance of personal protective equipment, and appropriate training.

4.3 Employee

Employees should report any problems with personal protective equipment to their supervisors. Such problems may include:

- Degradation;
- Odors or irritation;
- Discomfort or breathing difficulties;
- Unusual residues;
- Interference with vision or communication; and
- Signs or symptoms of heat or cold stress or chemical-related illness.

5.0 PERSONAL PROTECTIVE EQUIPMENT SELECTION

The following levels of personal protective equipment will be used on Secor jobs:

- **Level B** - Self-contained breathing apparatus (SCBA) or supplied-air respirator with an escape bottle, chemically resistant suit.

- **Level C** - Full- or half-face air-purifying respirator, chemically resistant PPE.

- **Level D** - No respiratory protection. Safety glasses, hard hat, steel-toe boots, long-sleeved shirt and pants. Hearing protection, gloves, and other PPE as required. As a *SECOR* employee, you will be reimbursed up to $100.00 for steel-toe boots, where required.

3. Most *SECOR* jobs will require one or all of the following "zones" or "boundaries" to be established during work:

   a. **Exclusion Zone** - Required when workers within that zone must wear personal protective equipment. (Usually Level B or C.)

   b. **Contamination Reduction Zone** - Required when decontamination of people and equipment leaving the Exclusion Zone is required. (Usually Level B or C.)

   c. **Support Zone** - the location where administrative and other support activities are conducted. (Usually Level B or C.)

d. **Work Area Boundary** - Excludes non-workers from entering a potentially hazardous environment. (Usually Level B, C, or D.)

SECOR will reimburse the employee for steel-toed boots, prescription safety glasses, and respirator spectacle kits, up to an allowed maximum as determined by Corporate Administration. No contact lenses are allowed in the field or lab.

The following general use field equipment, as required, should be available for Secor jobs:

- 4- or 6-point American National Standards Institute (ANSI)-approved hard hat (preferably with a ratchet adjustment);
- Reflective vest;
- "ABC" dry chemical fire extinguisher;
- First Aid kit;
- "Caution" barrier tape;
- Reflective cones/barricades;
- Emergency eyewash;
- Disposable (6 mil minimum) and reusable (11 mil minimum) nitrile gloves;
- PVC overboots or equivalent;
- "White" Tyvek-type suits for general protection from dirt;
- "Yellow" PE-coated Tyvek-type suits for protection against chemical contamination (with hoods, no booties);
- Appropriate climate-protective gear, as required;
- Duct tape;
- Hudson-type sprayers for TSP/detergent wash and water rinse;
- Plastic sheeting ("visqueen"); and
- Tubs (or plastic pools) and brushes for decontamination.

6.0 REFERENCES

- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations*.
- 29 CFR 1926, Subpart E, "Personal Protective and Lifesaving Equipment", *Code of Federal Regulations*.

1.0 PURPOSE

Standard Safety Procedures have been developed to provide direction to field personnel for specific physical hazards. Standard Safety Procedures respond to the most frequently encountered physical hazards on *SECOR* project sites. **The current compendium should not be considered all-inclusive.** (Refer to Appendix A for the Table of Contents and text of the Standard Safety Procedures.)

2.0 SCOPE

The Standard Safety Procedures are general guidance documents to be applied as needed for *SECOR* projects. They are not substitutes for site-specific procedures as determined by Corporate Health and Safety.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section I, ***Task Specific Health and Safety Risk Analysis***
- Section II, ***General Site Requirements and Background Information***
- Section V, ***General Site Health and Safety Procedures***

4.0 RESPONSIBILITIES

4.1 Corporate Health and Safety

Develop and update SECOR Safety policies and procedures.

4.2 Project Manager

Project Managers will apply Standard Safety Procedures as necessary on their projects. Project Managers should consult with Corporate Health and Safety when a project may pose hazards for which Standard Safety Procedures have not been developed, or when they require greater specificity.

4.3 Health & Safety Coordinator

Health & Safety Coordinators should make available electronic or hard paper copies of

Standard Safety Procedures to employees as they apply to their work.

4.4 Employee

Employees should familiarize themselves and adhere to Standard Safety Procedures as they apply to their work.

5.0 REFERENCES

- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

In the event of an inspection by the federal Occupational Health and Safety Administration, state Occupational Health and Safety Administration, or other regulatory agency of a *SECOR* project, key *SECOR* personnel (e.g., Project Manager, Site Health and Safety Officer) will be responsible for assisting inspectors. These personnel will also be responsible for collecting information that will help *SECOR* to remedy any noted deficiencies as quickly as possible.

2.0 SCOPE

This procedure applies to any *SECOR* project expected to undergo, is undergoing, or has recently undergone an inspection by a state or federal Occupational Health and Safety Administration, or other regulatory agency.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part A, ***Health and Safety Plan Responsibilities***
- Section V, Part B, ***Post "Local Emergency and Project Telephone Numbers"***
- Section V, Part G, ***General Procedures***

4.0 PROCEDURES

Coordination of the inspection is the responsibility of the Site Health and Safety Officer in the field, or the Health & Safety Coordinator in the office or lab, who will accompany the Inspector. They will adhere to the following procedure:

a. Treat the Inspector as a professional and with courtesy.

b. Ask for the Inspector's credentials.

c. Ask who or what is being inspected. Ensure there is a pre-inspection meeting or conference.

d. Cooperate with the Inspector, be succinct, and do not attempt to mislead him or her.

e. Before taking the Inspector on a field site, contact the Project Manager, who will then notify the client, Principal-in-Charge, and Corporate Health and Safety. For a *SECOR* office or lab inspection, contact the Principal-in-Charge, who will then notify Corporate Health and Safety. The inspection can be delayed until the Project Manager or Principal-in-Charge is contacted. Contact Corporate Health and Safety before providing copies of any documents to the Inspector.

f. The Inspector will be allowed into the work area of concern only if he or she has their own personal protective equipment as designated in the Health and Safety Plan or other procedures. If the Inspector does not have proper personal protective equipment, and it is a field inspection, politely inform them they may observe operations from the support zone only. The Site Health and Safety Officer will provide a briefing of the Health and Safety Plan and have the Inspector sign Attachment 2 (Subcontractor Training and Medical Surveillance Record), Attachment 7 (Daily Health and Safety Briefing Log), and Attachment 8 (Acknowledgment and Agreement Form).

g. If there are any questions you are uncomfortable answering during the meeting or conference, contact the Vice President of Human Resources or Corporate Health and Safety for guidance.

h. Note where and what observations they make and write down any comments. If the Inspector takes photographs, also take photographs of the same areas. Write down the names of any individuals to whom the Inspector speaks. Document the Inspector's questions, and record them and any responses given. Be aware that the Inspector can conduct confidential interviews with employees.

i. If the Inspector wishes to conduct exposure monitoring, contact Corporate Health and Safety to coordinate concurrent monitoring. The inspection can be delayed until *SECOR* has obtained appropriate instrumentation.

j. At the end of the inspection, assure there is a closing meeting or conference. Take full notes of all proceedings. If the Inspector notes probable violations during the walk-through, or at the closing conference, try to correct them immediately.

k. Remember that if a subcontractor under *SECOR* supervision and/or a *SECOR* Health and Safety Plan is being inspected, *SECOR* will probably be considered part of the inspection as well.

1. Upon completion of the inspection, call the Corporate Health and Safety Manager immediately and prepare and send a Site Incident Report to Corporate Health and Safety and the Vice-president of Human Resources within 24 hours.

5.0 REFERENCES

- 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

The purpose of this Policy is to assure that employees engaged in job-related activities where there is a potential for exposure to inhalation hazards greater than regulated exposure limits are trained in respiratory protection and provided proper equipment.

2.0 SCOPE

This Policy applies to all *SECOR* employees engaged in job-related activities where there is a potential for inhalation exposure greater than regulated exposure limits.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section I, Part C, ***Pesonal Protective Equipment Requirements***
- Section II, Part B, ***Minimum Training, Respirator Fit-Testing, and Medical Surveillance Requirements for Site Personnel***
- Section V, Part I, ***Perimeter Identification and Personal Protective***

4.0 DEFINITIONS

Air-Purifying Respirator: A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

Breakthrough: The penetration of challenge material(s) through a gas or a vapor air-purifying element. The quantity or extent of breakthrough during service life testing is often referred to as the percentage of the input concentration.

Canister or Cartridge: A container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

Dust: A solid, mechanically produced particle with a size ranging from submicroscopic to macroscopic.

Emergency Respirator Use Situation: A situation that requires the use of respirators due to the unplanned generation of a hazardous atmosphere (often of unknown composition) caused by an accident, mechanical failure, or other means and that requires evacuation of personnel or immediate entry for rescue.

Employee Exposure: Exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

End-Of-Service-Life Indicator (ESLI): A system that warns the respirator user of the approach of the end of adequate respiratory protection; for example, that the sorbent is approaching saturation or is no longer effective.

Escape Only Respirator: Respiratory devices that are designed for use only during escape from hazardous atmospheres.

Filter or Air-Purifying Element: A component used in respirators to remove solid or liquid aerosols from the inspired air.

Filtering Facepiece (Dust Mask): A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

Fit Factor: A quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

Fit Test: Means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)

Fume: A solid condensation particulate, usually of a vaporized metal.

Gas: An aeriform fluid that is in a gaseous state at standard temperature and pressure.

High-Efficiency Particulate Air (Hepa) Filter: A filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

Immediately Dangerous to Life or Health (IDLH): Acute respiratory exposure that poses an immediate threat of loss of life, immediate or delayed irreversible adverse effects on health, or acute eye exposure that would prevent escape from a hazardous atmosphere.

Mist: A liquid condensation particulate.

Negative Pressure Respirator (Tight Fitting): A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

Oxygen Deficient Atmosphere: An atmosphere with an oxygen content below

19.5% by volume.

Positive Pressure Respirator: A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

Potential Occupational Carcinogen: Any substance, or combination or mixture of substances, which causes an increased incidence of benign and/or malignant neoplasms, or a substantial decrease in the latency period between exposure and onset of neoplasms in humans or in one or more experimental mammalian species as the result of any oral, respiratory, or dermal exposure, or any other exposure which results in the induction of tumors at a site other than the site of administration. This definition also includes any substance that is metabolized into one or more potential occupational carcinogens by mammals (29 CFR 1990.103, OSHA Cancer Policy).

Powered Air-Purifying Respirator (PAPR): An air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

Pressure Demand Respirator: A positive pressure atmosphere- supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

Protection Factors:

Assigned Protection Factor (APF): The minimum anticipated protection provided by a properly functioning respirator or class of respirators to a given percentage of properly fitted and trained users.

Simulated Workplace Protection Factor (SWPF): A surrogate measure of the workplace protection provided by a respirator.

Workplace Protection Factor (WPF): A measure of the protection provided in the workplace by a properly functioning respirator when correctly worn and used.

Qualitative Fit Test (QLFT): A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Quantitative Fit Test (QNFT): Means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

Recommended Exposure Limit (REL): An 8- or 10-hour time-weighted average (TWA) or ceiling (C) exposure concentration recommended by NIOSH that is based on an evaluation of the health effects data.

Self-Contained Breathing Apparatus (SCBA): An atmosphere-supplying

respirator for which the breathing air source is designed to be carried by the user.

Service Life: The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

Supplied-Air Respirator (SAR) or Airline Respirator: An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user. **Tight-Fitting Facepiece:** A respiratory inlet covering that forms a complete seal with the face.

User Seal Check: An action conducted by the respirator user to determine if the respirator is properly seated to the face.

Vapor: The gaseous state of a substance that is solid or liquid at temperatures and pressures normally encountered.

5.0 RESPONSIBILITIES

5.1 Corporate Health and Safety

The respiratory protection program will be administered and periodically reevaluated by Corporate Health and Safety, particulary in regard to:

- The selection of respirators;
- Medical evaluation requirements;
- Procedures for fit testing, proper use and cleaning of respirators; and
- Training requirements.

5.2 Project Manager

Project Managers will assure program compliance on their field sites, including projects not falling under the auspices of a Health and Safety Plan or Chemical Hygiene Plan (laboratory).

5.3 Health & Safety Coordinator

The Health & Safety Coordinator will coordinate purchase, repair, or replacement of respiratory protection equipment as may be required due to wear and deterioration. The Health & Safety Coordinator will also maintain local training, fit-test, and self-contained breathing apparatus inspection and tank testing records. The Health & Safety Coordinator will assure fit-testing is up-to-date for employees.

5.4 Site Health and Safety Officer

The Site Health and Safety Officer will direct the use of respirators in the field as designated in the Health and Safety Plan.

5.5 Employee

Designated employees will be instructed and trained in the use, care, and limitations of air-purifying respiratory protection before its use in the field. Training will be included as part of 40-hour Hazardous Waste Operations training and other training as necessary. Air-line respirators or self-contained breathing apparatus will not be used without advanced training specific for that purpose.

Each employee must be currently medically qualified to wear a respirator. They will be fit-tested initially and at least annually thereafter (semiannually for asbestos work). The employee must only wear the respirator (manufacturer, type, model, and size) on which they were fit-tested.

NOTE: Any employee who is required to wear their respirator greater than 30 days per calendar year and/or has worked with asbestos containing matreials within the past twelve months will need to have annual medical surveillance screening. (See Policies 3.0: Medical Surveillance Program, and 4.0: Hazardous Waste Operations and Asbestos Training Program).

6.0 PROGRAM REQUIREMENTS

The following provisions are included in Secor's respiratory protection program, as applicable:

- Selection of respirators,
- Medical evaluations,
- Fit testing procedures for tight fitting respirators,
- Procedures for routine and emergency respirator use,
- Cleaning and maintenance of respirators,
- Training of employees.

Selection of respirators

Secor will evaluate the need for repiratory protection by examining workplace hazards and relavent user factors, as documented in the site specific Health and Safety Plan (HASP). This evaluation will include a reasonable estimate of employee exposures to respiratory hazards, and an identification of the contaminants's chemical state and physical form. Where the identification or reasonable estimate of the

employee exposure cannot be made, the situation should be regarded as an Immediately Dangerous to Life and Health (IDLH) Atmosphere, and Level B personal protection (utilizing a full face SCBA or pressure demand supplied-air respirator) should be utilized. Respirators required to be used in the workplace must be NIOSH-approved and appropriate for the hazard.

For protection against gases and vapors, the following respiratory protection is required:

- An atmosphere-supplying respirator, or
- An air purifying respirator, provided that:

  1. The respirator is equiped with an end-of-service indicator (ESLI) certified by NIOSH for the contaminant, or
  2. If there is no ESLI appropriate for the condition in the workplace, a change schedule for canisters and cartidges that is based on objective information or data that will ensure that the canisters and cartridges are changed before the end of their service life.

For protection against particulates, the following respiratory protection is required:

- An atmosphere-supplying respirator, or
- An air purifying respirator equipped with a filter certified by NIOSH under 30 CFR part 11 as a high efficiency particulte air (HEPA) filter, or an air-purifying respirator equipped with a filter certified for particulates by NIOSH under CFR part 84, or
- For contaminants consisting primarily of particulates with mass median aeodynamic diameters (MMAD) of at least 2 micrometers, an air-purifying respirator equipped withany filter certified for particulates by NIOSH.

Medical Evaluations

Medical evaluations are required for all respirator users, except for employees who voluntarily use dust masks and for those whose only respirator would be the use of escape-only respirators. The medical evaluation will be provided before the initial fit-test and before the respirator is used for the first time, and consists of a medical questionnaire (Appendix C of the OSHA standard) and a medical examination.

Fit Testing

An employee using a tight fitting respirator should be fit tested prior to initial use of the respirator, and at least annually thereafter. The fit test will be administered using OSHA-accepted QLFT or QNFT protocols (see Attachment 1).

Procedures For Routine and Emergency Respirator Use

Employees that use a tight-fitting respirator should perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks can be used.

- ***Positive pressure check.*** Close off the exhalation valve and exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

- ***Negative pressure check.*** Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

Further procedures for routine and emergency respirator use are documented in the site specific Health and Safety Plan (HASP).

Secor employees should not use tight-fitting respirators when:

- Facial hair interferes with the sealing surface of the facepiece, or
- Corrective lenses interfere with the sealing surface of the facepiece.

Cleaning and Maintenance of Respirators

Respirators should be repaired, cleaned and disinfected before use. A suggested cleaning method is given in Attachment 2.

Training

SECOR employees will be trained on the proper use of respirators and their limitations by the following methods:

- 40-hour Hazardous Waste Operations Training;
- Annual 8-hour Refresher Hazardous Waste Operations Training.

7.0 REFERENCES

- 29 CFR 1910.134, "Respiratory Protection," *Code of Federal Regulations.*

Appendix 1
QLFT Fit Test Procedures
And
Documentation

Irritant Smoke (Stannic Chloride) Protocol

This qualitative fit test uses a person's response to the irritating chemicals released in the "smoke" produced by a stannic chloride ventilation smoke tube to detect leakage into the respirator. The respirator to be tested shall be equipped with high efficiency particulate air (HEPA) or P100 series filter. The smoke tube should be administered by a squeeze bulb. The smoke can be irritating to the eyes, lungs, and nasal passages. The test conductor shall take precautions to minimize the test subject's exposure to irritant smoke. The test subject shall be instructed to keep his/her eyes closed. No form of test enclosure or hood for the test subject needs to be used during the test.

The the following fit test exercises should be performed by the test subject while the respirator seal is being continually challenged by the smoke, directed around the perimeter of the respirator at a distance of six inches:

- **Normal breathing:** In a normal standing position, without talking, the subject shall breathe normally.
- **Deep breathing:** In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.
- **Turning head side to side:** Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.
- **Moving head up and down:** Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).
- **Talking:** The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor.
- **Jogging in place:** The subject shall jog in place.

If at any time during the test, the subject detects the irritant smoke, the test has failed. The procedure can be repeated, with the test subject re-adusting the respirator or selecting a new respirator.

Isoamyl acetate protocol

Odor threshold screening, performed without wearing a respirator, is intended to determine if the individual tested can detect the odor of isoamyl acetate at low levels.
This protocol is not appropriate to use for the fit testing of particulate respirators. If used to fit test particulate respirators, the respirator must be equipped with an organic vapor filter.

A fit test chamber should be employed using a clear 55-gallon drum liner or similar enclosure over the head of the test subject. After allowing the test concentration to stabilize, the the following fit test exercises should be performed:

- **Normal breathing:** In a normal standing position, without talking, the subject shall breathe normally.
- **Deep breathing:** In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.
- **Turning head side to side:** Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.
- **Moving head up and down:** Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).
- **Talking:** The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor.
- **Jogging in place:** The subject shall jog in place.

If at any time during the test, the subject detects the banana-like odor of IAA, the test has failed. The procedure can be repeated, with the test subject readusting the respirator or selecting a new respirator. If the subject passes the test, the efficiency of the test procedure shall be demonstrated by having the subject break the respirator face seal and take a breath before exiting the chamber.

Fit Test Documentation

Subject Name _____ Date _____

Social Security Number_____ Employee Number_____

Test Type: ☐ Irritant Smoke ☐ Isoamyl Acetate

Respirator Type: ☐ Full Face ☐ Half Face Model_____

Test Exercises:

	Pass (√)
Normal breathing	☐
Deep breathing	☐
Turning head side to side	☐
Moving head up and down	☐
Talking	☐
Jogging in place	☐

The above subject was successfully fit tested utilizing the proper fit test procedure.

_____
Administrator's Signature

Appendix 2
Suggested Respirator Cleaning Methods

Suggested Respirator Cleaning Methods (from OSHA Respirtor Standard Appendix B)

1. Remove filters, cartridges, or canisters. Disassemble facepieces by removing speaking diaphragms, demand and pressure- demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.

2. Wash components in warm (43 deg. C [110 deg. F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.

3. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain.

4. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:

   - Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 deg. C (110 deg. F); or,

   - Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F); or,

   - Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.

5. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.

6. Components should be hand-dried with a clean lint-free cloth or air-dried.

7. Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.

8. Test the respirator to ensure that all components work properly.

Appendix 3
RESPIRATOR FIT-TEST CERTIFICATION FORM

SECOR International Inc.
Air Purifying Respirator Fit-Test form

Subject Name:		
Subject Social Security Number:		
Name of Test Administrator:		
Date of Test:		
Respirator Style/Model Number:		
Respirator Type (circle one):	Full	Half-Face
Test Performed (circle one):	Isoamyl Acetate	- Irritant Smoke

The following criteria must be successfully completed (check as completed):

Requirement	Initial if Completed
1. The administrator and subject have been informed of and understand the requirements of the SECOR "AIR PURIFYING RESPIRATOR (APR) FIT TESTING PROCEDURE	
2. The subject is medically qualified and has been trained on the use, maintenance and storage of respiratory protection	
3. The subject has received information regarding the respirator that the subject is tested on	
4. The subject has been exposed to the testing media and can recognize the smell	
5. The following tests were performed and successfully completed as required in the procedure:	
A. Normal Breathing	
B. Deep Breathing	
C. Turning head side to side	
D. Nodding head up and down	
E. Reading	
F. Grimace	
G. Bend over and touch toes	
H. Jogging in place	
I. Normal Breathing	

The above subject was successfully fit with respiratory protection utilizing the SECOR "AIR PURIFYING RESPIRATOR (APR) FIT TESTING PROCEDURE"

Signature of Administrator _____ Date _____

Signature of Subject _____ Date _____

Rev. 7-1-97

1.0 PURPOSE

The purpose of the Hazard Communication Program is to educate employees regarding the chemical hazards associated with their jobs, and the practices to mitigate those hazards.

2.0 SCOPE

The scope of this Policy applies to chemical and physical hazards in the work place, whether the work place is a client's factory or an environmental cleanup site.

3.0 *SECOR* FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of *SECOR's* site specific Safety and Health Plans (HASPs):

Section I, Part A, ***Predominant Potential Site Chemical Hazards***
Section II, Part J, ***Hazardous Materials***
Section IV, Part B, ***Expected Health Characteristics***
Section IV, Part E, ***Potential Non-chemical Hazards***

4.0 RESPONSIBILITIES

4.1 Director of Industrial Hygiene and Safety (or suitable designee)

1. Issues policies and procedures designed to protect employees from exposure to the hazards in the work place.
2. Provides guidance to Project Managers and other employees on minimizing exposures to chemicals and physical agents.
3. Coordinates with the SECOR Human Resources Department on the technical aspects of the development of the training and recordkeeping portions of this program.
4. Will consider comments received on the implementation of this policy on an annual or as needed basis to keep this program up to date and usable by employees.
5. Assists in the development of educational materials and plans as necessary.

4.2 Vice President Human Resources (or designee)

1. With technical input from the Director of Industrial Hygiene and Safety, establishes the training program designed to instruct employees on the hazards in the work place and how to avoid them.

2. Maintains the records associated with medical surveillance and training.

4.3 Principal-in-Charge

1. The Principal-in-Charge will ensure that all employees have received initial training (see Appendix 1) as specified and that Material Safety Data Sheet and Hazard Substances Inventory record keeping is up-to-date.

2. Ensures that employees receive an annual refresher course in Hazard Communication. This may be accomplished as part of the annual HAZWOPER refresher course.

4.4 Project Manager

1. The Project Manager will be responsible for ensuring that all Material Safety Data Sheets are available for the respective project site as required. The Project Manager will consult with the Health & Safety Coordinator and/or the Director of Industrial Hygiene and Safety as needed, to ensure complete implementation of this program on the project.

2. Whenever the work place is a client's factory/facility, the *SECOR* Project Manager will ascertain to the extent possible the likely hazards during the proposal development phase. In this way, *SECOR* can properly budget and protect/train employees from possible chemical and physical hazards. A memo will be issued to all project participants prior to the start of the project. A formal training program may be necessary depending upon the extent of the hazards to be encountered.

4.5 Health & Safety Coordinator

The Health & Safety Coordinator will assist the Principal-in-Charge and Project Manager in ensuring that all Material Safety Data Sheet, labeling, and hazardous substances inventory requirements are met.

5.0 ELEMENTS OF THE HAZARD COMMUNICATION PROGRAM

5.1 Training

1. *SECOR* employees will gain their understanding of chemical hazards as appropriate via the following training:

   - 40-hour Hazardous Waste Operations Training.
   - Annual 8-hour Refresher Hazardous Waste Operations Training.
   - 8-hour Supervisor Hazardous Waste Operations Training.
   - Daily field health and safety briefings as specified under a Health and Safety Plan.
   - Other hazard communication training as specified by Corporate Health and Safety.

2. In addition to training, hazard communication will be accomplished through the development and implementation of site-specific Health and Safety Plans. Health and Safety Plans will be prepared and employed as specified in *SECOR* Health and Safety Policy 2.0: Health and Safety Plans. The annual 8-Hour Refresher Hazardous Waste Operations Training includes a Hazard Communication training module and test, which is reviewed and updated every year.

3. As noted earlier, whenever the work place is a client's factory/facility, the *SECOR* Project Manager will ascertain to the extent possible the likely hazards during the proposal development phase. In this way, *SECOR* can properly budget and protect/train employees from possible chemical and physical hazards. A memo will be issued to all project participants prior to the start of the project. A formal training program may be necessary depending upon the extent of the hazards to be encountered.

5.2 Material Safety Data Sheets

Chemical suppliers provide Material Safety Data Sheets (MSDSs) for hazardous materials that present basic information including product ingredients, hazards associated with its use, safe use procedures, and disposal requirements. MSDSs are even available for common household items such as Windex. MSDSs will be included and readily accessible to employees as part of Health and Safety Plans (HASPs) prepared by the project manager when hazardous chemicals are used in the field. MSDSs will also be stored in the office or lab when hazardous chemicals are used in those locations as well. MSDSs will be made readily available by *SECOR* to employees and OSHA.

5.3 Hazardous Substances Inventory

A hazardous substances inventory will be compiled for each office where chemicals are used

and maintained in the area along with the corresponding MSDS. The inventory will be cross-referenced to the MSDSs.

In addition, Appendix 2 contains a listing of potential chemical hazards that *SECOR* employees may encounter on a typical field site related to petroleum remediation activities. Controls and personal protective equipment recommendations to protect employees would be contained in the site specific Health and Safety Plan (HASP) that is prepared for the field site.

5.4 Labeling and Containers

When a chemical is received from a manufacturer or distributor, the container must be properly labeled to include:

- The identity of the contents;
- The appropriate hazard warning(s) (as listed on the Material Safety Data Sheet); and
- The name and address of the manufacturer of the chemical.

During Hazardous Waste Operations Training, specific methods used to address the appropriate hazard warning and labels are given with example. The following are four systems of methods of labeling and warning.

- NFPA 704M Labeling System
- RCRA/TSD Hazardous Waste Categories
- DOT Labeling
- Fire and Explosive Materials Labeling

All chemicals introduced to a hazardous materials project will be stored, dispensed from, or otherwise used in the original containers or containers approved for storage/dispensing/use of the given material. All original labels, warnings, and other printed information will be maintained intact and plainly visible at all times. If a container other than the product's original container is used, it must be properly labeled with the same information as if it was the original container. *Chemicals will not be allowed on a project site if not in the original or approved containers, or if unlabeled or improperly labeled.*

5.5 Non-Routine Tasks

Employees will be informed of the safety and health hazards involved with performing non-routine tasks and the means by which they can properly protect themselves as part of the site

specific Health and Safety Plan (HASP) which is prepared for all *SECOR* field activities (see *SECOR* Safety Policy 2.0 Health and Safety Plans, Section IV, Part F *"Task Specific Hazards"*).

5.6 Physical Agent Hazards

Physical agents include items such as radiation, heat and cold, noise, etc. These items can also cause health effects that can be significant and diminish the quality of life. *SECOR* employees must also be made of these hazards where they exist on a project site or in a facility and proper precautions to take to avoid the hazard.

5.7 Non-English Speaking Employees

Accommodations and for training and labeling in appropriate language will be make by *SECOR* for any non-English speaking employee that requires hazard communication information.

6.0 HAZARD COMMUNICATION TRAINING RECORDS

Hazard communication training records include Hazardous Waste Operations training certificates, Health and Safety Plan Acknowledgment and Agreement Forms, Daily Site Health and Safety Briefing Logs, and other training as may be necessary. Copies of all Hazardous Waste Operations training certificates will be maintained in each office and in the Corporate Human Resources office. Copies of Health and Safety Plan Attachments will be kept with the Health and Safety Plan in the project file.

7.0 SUBCONTRACTORS AND CLIENTS

SECOR must formally notify all subcontractors of the presence of any hazardous substances used on any *SECOR* project site. Similarly, subcontractors must be able to provide:

- Proof of a Hazard Communication Program.
- Proof of employee training on hazard communication.
- A list of any hazardous substances used in their work for *SECOR*.
- MSDSs on-site, and
- Properly labeled chemical containers.

7.0 REFERENCES

- 29 CFR 1910.1100, "Hazard Communication," *Code of Federal Regulations.*

Appendix 1

Initial Hazard Communication Training Documentation Form

SECOR International, Inc.
New Employee Hazard Communication Training
In accordance with OSHA 29 CFR 1910.1200

1) **The Hazard Communication Program (Worker Right To Know) 1910.1200**
- MSDS (Location Of MSDS's In The Office & How To Read And Use Them)
- PPE (Availability And Where To Get It)
- Hazard Classes (Flammable, Corrosive, Toxic, Etc.)
- Labels & Other Forms Of Warning (Container Contents, Danger, Warning, And Information Signs)
- Training & Information (Prior To Initial Assignment And When A New Hazard Is Introduced)
- The Written Program – Policy 10.0 (The Location, Availability, And Contents Of The Program)

2) **Methods To Detect The Presence Or Release Of A Hazardous Chemical In The Work Place**
- Visual
- Odors
- Monitoring Equipment
- pH Probe Or Paper
- Evacuation Alarms
- Other

3) **Physical And Health Hazards Of Chemicals You May Be Exposed To In The Work Place**
- Flammable
- Toxic
- Corrosive
- Oxidizer
- Carcinogen
- Review Of Exposure Charts (Fuels, Metals, Solvents)
- Other

4) **Labels And Other Forms Of Warning**
- All Containers Must Be Labeled To Identify The Container Contents And Applicable Hazards.
- Danger, Warning, And Information Signs.
- The Site Specific Health And Safety Plans.
- Tailgate Safety Meetings
- Client Warning Signs
- Other

5) **Measures You Can Take To Protect Yourself From Injury Or Exposure**
- Compliance With The *SECOR* Health & Safety Policy & Procedure Manual
- Safe Work Practices
- Personal Protective Equipment (PPE)
- HASPs
- Emergency Procedures
- General Hazard Awareness
- *Personal Responsibility*
- Other

Office HSC (Print Name)_____
Signature_____
Date_____

Employee (Print Name)_____
Signature_____
Date_____

Appendix 2

Summary of Chemicals Likely to be Encountered on a Field Site

CHEMICAL (OR CLASS)	PEL/TLV TWA	OTHER PERTINENT LIMITS	WARNING PROPERTIES	ROUTES OF EXPOSURE OR IRRITATION	ACUTE HEALTH EFFECTS	CHRONIC HEALTH EFFECTS/ TARGET ORGANS
1,1 – Dichloroethene (1,1-DCE)	TLV = 5 ppm	STEL = 20 ppm IDLH = 3000 ppm	Clear, colorless	Inhalation, dermal, ingestion	Irritated eyes, nose, throat, skin	CNS, liver, kidney, respiratory system damage, carcinogen
1,1 - Dichloroethane (1,1-DCA)	PEL = 100 ppm TLV = 100 ppm	IDLH = 3000 ppm	Clear, colorless liquid with chloroform odor	Inhalation, dermal, ingestion	Eye and skin irritation, drowsiness	CNS, liver, kidney
1,2 – Dichloroethene (1,2-DCE)	PEL = 200 ppm TLV = 200 ppm		Clear, colorless liquid with ether-like odor	Inhalation, dermal, ingestion	Irritated eyes, nose, throat	CNS, respiratory system
1,2 – Dichloropropane	PEL = 75 ppm TLV = 75 ppm	STEL = 110 ppm	Clear, colorless liquid with chloroform-like odor	Inhalation, dermal, ingestion	Irritated eyes, nose, throat	CNS, liver, kidney, potential carcinogen
Methylene Chloride	PEL = 25 ppm TLV =50 ppm	STEL = 125 ppm IDLH = 2300 ppm	Chloroform-like odor	Inhalation, dermal, ingestion	Fatigue, weakness, sleepiness, tingling, nausea, eye and skin irritation	CNS, skin, eyes, potential carcinogen
Trichloroethene (TCE)	PEL = 25 ppm TLV =50 ppm	STEL = 100 ppm IDLH = 1000 ppm	Chloroform-like odor	Inhalation, dermal, ingestion	Irritated eyes, nose, throat, skin	CNS, liver, kidney, respiratory system damage, carcinogen in animals
1,1,1 - Trichloroethane (1,1,1-TCA)	PEL = 350 ppm TLV = 350 ppm	STEL = 450 ppm IDLH = 1000 ppm	Mild, chloroform-like odor	Inhalation, dermal, ingestion	Eye and skin irritation, headache, CNS depressant	Skin sensitizer, CNS, liver, kidney, cardiovascular system

CHEMICAL (OR CLASS)	PEL/TLV/TWA	OTHER PERTINENT LIMITS	WARNING PROPERTIES	ROUTES OF EXPOSURE/OR IRRITATION	ACUTE HEALTH EFFECTS	CHRONIC HEALTH EFFECTS/ TARGET ORGANS
Benzene	PEL = 1 ppm TLV = 10 ppm	STEL = 5 ppm	Clear, colorless liquid with airplane glue odor	Inhalation, dermal, ingestion	Irritation, headaches, dizziness, nausea	Irritation, dermatitis, blood disorders, leukemia.
Ethyl Benzene	PEL = 100 ppm TLV = 100 ppm	STEL = 125 ppm	Clear, colorless liquid with pungent aromatic odor	Inhalation, dermal, ingestion	Irritation, headaches, dizziness, nausea	Irritation, respiratory tract, dermatitis.
Tetrachloroethene (PCE)	PEL = 100 ppm TLV = 25 ppm	PEL-Ceiling = 300 ppm STEL = 100 ppm	Colorless liquid with an odor like ether or chloroform	Inhalation, dermal, ingestion	Eye, nose, throat, irritation; nausea, flushed face and neck; skin erythema, liver damage	CNS, liver, respiratory system, probable human carcinogen
Xylene	PEL = 100 ppm TLV = 100 ppm	STEL = 150 ppm	Clear, colorless liquid with aromatic odor	Inhalation, dermal, ingestion	Irritation, headaches, dizziness, nausea	Irritation, liver, kidney, dermatitis.
Toluene	PEL = 200 ppm TLV = 50 ppm		Clear, colorless liquid with a sweet pungent odor	Inhalation, dermal, ingestion	Irritation, headaches, muscle fatigue, dizziness, nausea	CNS, irritation, dermatitis.
Lead	PEL = 0.05 mg/m3 TLV = 0.15 mg/m3	IDLH = 100 mg/m3	Dark solid	Inhalation, dermal, ingestion	Weak, Eye Irritation, Abdominal Pain	CNS, Gastrointestinal Tract, Kidneys, Blood, Gingival Tissue
Mercury	PEL = 0.01 mg/m3 TLV = 0.03 mg/m3	Ceiling = 0.04 mg/m3	Lustrous metal	Inhalation, dermal, ingestion	Skin irritation, nausea, dizziness	CNS, kidneys

CHEMICAL (OR CLASS)	PEL/TLV TWA	OTHER PERTINENT LIMITS	WARNING PROPERTIES	ROUTES OF EXPOSURE OR IRRITATION	ACUTE HEALTH EFFECTS	CHRONIC HEALTH EFFECTS/ TARGET ORGANS
Dichloromethane	PEL = 50 ppm TLV = 50 ppm		Chloroform-like odor	Inhalation, dermal, ingestion	Eye and skin irritation, nausea, fatigue	CNS, cardiovascular system, potential carcinogen
Chloroform	PEL = 50 ppm TLV = 10 ppm		Colorless liquid with a pleasant, sweet odor	Inhalation, dermal, ingestion	Dizziness, mental dullness, nausea, disorientation, headaches, eye and skin irritation	Liver, kidney, heart, eyes, skin and potential human carcinogen
Freon 113	PEL = 1000 ppm TLV = 1000 ppm	STEL = 1250 ppm	Colorless, nearly odorless, volatile liquid	Inhalation, dermal, ingestion	Throat irritation, drowsiness, dermatitis, narcosis	Skin, and heart

PEL-TWA = Permissible Exposure Limit-Time Weighted Average (8 hours).
TLV-TWA = Threshold Limit Value-Time Weighted Average (8 hours).
STEL = Short Term Exposure Limit (15 minutes).
IDLH = Immediately Dangerous to Life or Health.
C = Ceiling Limit (not to be exceeded, even instantaneously)
SKIN = Skin absorption can be a significant part of exposure.

1.0 PURPOSE

This Policy addresses maintenance of health and safety-related records, notification to employees of the results of medical or exposure assessments, and employees access to records.

2.0 SCOPE

This Policy applies to all *SECOR* field offices.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part A, ***Health and Safety Plan Responsibilities***
- Attachment 9, ***Injury/Illness Report***
- Attachment 10, ***Site Incident Report***

4.0 RESPONSIBILITIES

4.1 Corporate Health and Safety

Corporate Health and Safety will maintain a central record of health and safety training and medical exams. Corporate will also provide information on medical clearance dates to the Health & Safety Coordinators.

4.2 Project Manager

The Project Manager will assure that Health and Safety Plans and/or other related documents are placed in the project file at the end of the project.

4.3 Health & Safety Coordinator

The Health & Safety Coordinator will maintain a local file of all Health and Safety Plans, health and safety training documents, respirator fit-testing certification forms, medical clearance dates, and equipment maintenance logs. The Health & Safety Coordinator will send copies of training certificates to Corporate Health and Safety.

5.0 RECORD KEEPING

5.1 Medical Records

SECOR's contractor physician confidentially maintains employee medical records. Details relating to these records can be found in Health and Safety Policy 3.0: Medical Surveillance Program.

Part of the medical examination includes a Physician's Written Opinion Letter prepared by the reviewing physician to inform the employer of the individual's fitness for hazardous waste site or other work functions. Copies of this letter are sent to the employee and maintained by Corporate Health and Safety.

5.2 Drug and Alcohol Screening

SECOR currently requires all field employees to participate in a company-sponsored substance drug and alcohol-screening program. SECOR's contractor physician and the Vice President of Human Resources maintain the results of all such screenings in confidential files.

5.3 Employee Exposure Monitoring Results

Corporate Health & Safety will document any industrial hygiene or health physics personal monitoring data to the subject employees and the contractor physician (e.g., chemical, noise, or radiation monitoring). Air monitoring as conducted under a Health & Safety Plan is usually not reported unless a condition greater than an acceptable limit as stated in the Plan exists.

5.4 Injury and Illness Reporting

In the event that an injury or illness occurs on a project or in an office or laboratory, an Injury/Illness Report must be signed by the Principal-in-Charge and submitted to Corporate Health and Safety within 24 hours (see Policy 12.0: Injury, Illness and Incident Prevention and Reporting Program). These reports are maintained by Corporate Health and Safety and copied to the Vice President of Human Resources.

5.5 Site Incident Reporting

Incidents concerning a regulatory or other public agency inspection citation, chemical spill,

chemical overexposure, fire, car accident, property damage, evacuation, natural disaster, "near miss" (an incident that almost happened), must be reported on a Site Incident Report form, signed by the Principal-in-Charge, submitted to Corporate Health and Safety, and Corporate Administration (property damage or loss cases only), (see Policy 12.0).

5.6 Health and Safety Plans

It is necessary for *SECOR* to maintain copies of all Health and Safety Plans and associated Attachments generated from field projects in the project file (see Policy 2.0: Health and Safety Plans).

6.0 ACCESS TO EMPLOYEE EXPOSURE AND MEDICAL RECORDS

Any employee receiving a medical exam is entitled to receive a copy of his or her medical file. If the employee desires, they may contact Corporate Health and Safety for an authorization form to be sent directly to the contractor physician for release of their file.

7.0 REFERENCES

- 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations.*
- 29 CFR 1926.22, "Recording and Reporting of Injuries", *Code of Federal Regulations.*
- 29 CFR 1926.50,"Medical Services and First Aid", *Code of Federal Regulations.*

1.0 PURPOSE

To provide a system for preventing, reporting, and evaluating accidents.

2.0 SCOPE

This Policy applies to all *SECOR* work locations, whether in the office, laboratory, or field. *SECOR* Health and Safety Plans, Chemical Hygiene Plans, and various training programs and procedures as described in this Manual provide the primary basis for employee awareness inherent as part of the Injury, Illness and Incident Prevention and Reporting Program.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part A, ***Health and Safety Plan Responsibilities***
- Attachment 9, ***Injury/Illness Report***
- Attachment 10, ***Site Incident Report***

4.0 RESPONSIBILITIES

4.1 Corporate Health and Safety

Corporate Health and Safety will provide technical support to Principals-in-Charge and Health & Safety Coordinators in implementing the Injury, Illness and Incident Prevention and Reporting Program, and will maintain records of inspections, injuries and illnesses, and site incident investigations.

4.2 Principal-in-Charge

The Principal-in-Charge for each *SECOR* facility will ensure that the requirements of the Injury, Illness and Incident Prevention and Reporting Program are implemented.

4.3 Project Manager

Project Managers will ensure that project staff complies with safe work practices, and that

they effectively control hazardous conditions on projects under their direction.

4.4 Health & Safety Coordinator

The Health & Safety Coordinator will assist the Principal-in-Charge and Project Managers with correcting unsafe conditions or work practices. The Health & Safety Coordinator will also maintain local documentation of health and safety training attended by each employee.

4.5 Employee

Each employee is responsible for complying with any safe work practices established for their project or work area. Executive Management also encourages employees to bring any unsafe conditions or practices observed to the attention of their Site Health and Safety Officer, Supervisor, Health & Safety Coordinator, Principal-in-Charge, or the Corporate Health and Safety Manager.

Employees are required to cooperate fully and immediately with any investigation into an alleged work place hazard and must comply without delay with any remedial action implemented by *SECOR*.

5.0 ELEMENTS OF THE INJURY, ILLNESS AND INCIDENT PREVENTION AND REPORTING PROGRAM

5.1 Medical Surveillance Program (See Policy 3.0: Medical Surveillance Program and Appendix C).

5.2 Injury and Illness Reporting

"Injuries" include cuts, fractures, sprains, strains, bruises, etc. "Illnesses" include acute or chronic conditions resulting from inhalation, ingestion, absorption, or skin contact with chemicals or radiation. When in doubt if an incident should be reported, contact the Corporate Health and Safety Manager.

All job-related injuries and illnesses must be reported to the Corporate Health and Safety Manager and the Health & Safety Coordinator within 24 hours of the incident by the employee's supervisor. The affected employee, his or her supervisor and a Principal-in-Charge must review and sign the Injury/Illness Report form (see Appendix C). If for any reason the employee cannot sign, the form must still be sent to the Corporate Health and Safety Manager, and a signature obtained later.

The Principal-in-Charge within one week must submit to the Corporate Health & Safety Manager a copy of the field Health & Safety Plan (if applicable) and a follow-up report depicting a synopsis of events and his or her subsequent evaluation of the situation, including what actions will be taken to prevent recurrences.

Any employee that sees a physician for a work-related injury or illness must return to work with a report from that physician and they must send a copy to Corporate Health and Safety. This report is commonly referred to as a "Physician's First Report of Injury/Illness." The employee must also submit any subsequent physician's reports to Corporate Health and Safety each additional time they return to the physician. These reports must clearly indicate physician-specified time away from work, time period for any restrictions, and ultimately clearance (or limited clearance) from restrictions.

Corporate updates the Occupational Safety and Health Administration "200" Injury/Illness Log and sends an office-specific copy to the Health & Safety Coordinator as necessary to be kept in their file. In January of each year, Corporate Health & Safety will send every office a summary of the "200" Log to be posted during the month of February for the previous year.

Corporate Health and Safety works closely with Human Resources on all injury/illness cases, particularly in regard to workers' compensation and human resources issues. Executive Management with *SECOR* receives monthly Health and Safety reports indicating injuries and illnesses.

5.3 Site Incident Reporting

Incidents concerning a regulatory or other public agency inspection, chemical spill, chemical overexposure, fire, car accident, property damage, evacuation, natural disaster, "near miss" (an incident that almost happened), etc. must be reported on a Site Incident Report form (see Appendix C). Within 24 hours, this report must be reviewed and signed by the Principal-in-Charge and copies sent to the Corporate Health and Safety Manager, the Regional Vice President, Corporate Administration (property damage or loss cases only), and the Health & Safety Coordinator.

The Principal-in-Charge within one week must submit to Corporate Health and Safety a copy of the field Health & Safety Plan (if applicable) and a follow-up report depicting a synopsis of events and his or her subsequent evaluation of the situation, including what actions will be taken to prevent recurrences.

5.4 Injury/Illness and Incident Investigations

Corporate Health and Safety, with the assistance of a Principal-in-Charge and Health & Safety Coordinator, will conduct investigations of each injury, illness, incident, or "near miss" to determine if a work place hazard contributed to or caused the occurrence. An action plan will be developed as necessary to correct the workplace hazard.

5.5 Work Place Hazard Remediation

The Principal-in-Charge will take all necessary steps to remedy any workplace hazards to prevent a recurrence. Hazards will be addressed according to their severity, with the most severe hazards receiving priority attention. They will address matters that they can solve immediately without delay. Depending upon the nature of the condition, steps to be taken to rectify the condition will include, but are not limited to:

- Providing interim protection, as necessary, to employees until a permanent solution is developed and implemented;
- Removing from service and then fixing or replacing defective equipment;
- Implementing revised safety methods for using equipment and other modifications or procedural safeguards; and
- Employee training.

5.6 Training Program

SECOR employees receive health and safety training as part of the company's Hazardous Waste Operations and Asbestos Training Program (Policy 4.0). Additional training to comply with the requirements of this Injury, Illness and Incident Prevention and Reporting Program will be provided during site health and safety briefings (documented by the Site Health and Safety Officer), or as determined by Corporate Health and Safety.

5.7 *Enforcement and Disciplinary System*

Every employee has personal responsibility for his or her own health and safety on the job. Employees will advise their supervisor or manager of any unsafe practices or conditions, and support fellow employees in maintaining a safe working environment. They must report injuries, illnesses, or other incidents (e.g., car accidents or other property damage, regulatory inspections, etc.) to the Project Manager or Principal-in-Charge immediately, and initiate an Injury/Illness or Site Incident Report. Employees will follow the Health and Safety Plans (HASPs), Standard Safety Procedures, or other aspects of this Manual as it applies to their

job at all times.

Not following verbal or written safety procedures, guidelines, rules, horseplay, and failure to wear or abuse of selected personal protective equipment, will result in disciplinary action. Additionally, physical inspections by SECOR project and company management that shows an overall lack of commitment to company safety goals will also result in disciplinary action.

In these cases, the project or company manager will meet with the employee to discuss the infraction and inform the individual of the rule or procedure that was violated and the corrective action to be taken.

6.0 REFERENCES

- 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations.*
- 29 CFR 1926.22, "Recording and Reporting of Injuries", *Code of Federal Regulations.*
- 29 CFR 1926.50,"Medical Services and First Aid", *Code of Federal Regulations.*

1.0 PURPOSE

The purpose of this Policy is to set forth *SECOR* guidelines regarding vehicle safety.

2.0 SCOPE

This Policy applies to all *SECOR* employees operating *SECOR* owned, leased or rented vehicles, or operating a personal vehicle on *SECOR* business. This Policy also applies to the operation of commercial motor, construction, or off-road vehicles in support of *SECOR* business.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part D, ***Detailed Description of Specific Worktasks Plannned***
- Section V, Part G, ***General Procedures***
- Attachment 10, ***Site Incident Report***

4.0 ELEMENTS OF THE VEHICLE SAFETY PROGRAM

4.1 Current Motor Vehicle Operator's License

SECOR drivers will have a current motor vehicle operator's license and will not drive any vehicle on *SECOR* business while their operator's license is suspended or revoked. Employees who routinely or on occasion drive on *SECOR* business are required to notify their immediate supervisor if their license is suspended or revoked as soon as they are officially informed.

If a requirement arises for use of a vehicle other than a passenger vehicle, the Project Manager or Principal-in-Charge will be responsible for confirming with all potential operators that they have experience in the operation of, and a current motor vehicle operator's license for that class of vehicle. In addition, *SECOR* requires a Motor Vehicle Report (MVR) on all employees who drive *SECOR* vehicles.

4.2 Construction Vehicles

SECOR operators of backhoes, trackhoes, power shovels, loaders, dump trucks, etc. must be adequately qualified as determined by the Vice-president of Construction Services, Chief Engineer, or their designees. (Also see Standard Safety Procedure-5: Construction Vehicles.)

4.3 Off-Road Vehicles

Off-road vehicles such as snowmobiles, "quads," and other off-road vehicles are sometimes used to access sites in remote areas that are inaccessible to a car or truck. *SECOR* employees will be allowed to operate such vehicles only after having completed classroom and outdoor training by a recognized and/or certified trainer. Training records will be maintained by the Health & Safety Coordinator. (Also see Standard Safety Procedure-12: Off-Road Vehicles.)

4.4 Seat Belts

It is required that *SECOR* drivers and passengers, including non-*SECOR* personnel, wear their seat belts whenever the vehicle is moving.

4.5 Speed Limits

Under no circumstances are drivers encouraged or authorized to exceed speed limits or otherwise drive in an unsafe manner in the conduct of *SECOR* business. Fines for all traffic violations, including parking violations, incurred while on Company business, will be the employee's personal responsibility.

4.6 Operation of Vehicles

SECOR employees are to operate all vehicles in a safe and efficient manner that will result in strict compliance with all federal, state and local motor vehicle requirements.

As a matter of standard practice, *SECOR* employees are to conduct their driving activities in a manner to avoid preventable accidents. Involvement in a preventable accident may be considered failure to conform with health and safety practices. Failure to adhere to this Policy may result in disciplinary action.

4.7 Accident Reporting and Investigation

If a vehicle operated by a *SECOR* employee in the performance of *SECOR* work is involved in a motor vehicle accident, a Site Incident Report form will be completed by the employee, signed by the Principal-in-Charge and sent to Corporate Health and Safety, Corporate Administration, the Regional Vice President, and the Health & Safety Coordinator within 24 hours.

In the event of an automobile accident, the employee should make every effort to obtain a police report, and obtain information from witnesses and other persons involved in the accident. Supporting documentation such as photographs and police reports should be included with the Site Incident Report if possible.

If an injury has occurred, an Injury/Illness Report form will be completed by the employee, signed by his/her Supervisor and the Principal-in-Charge, and sent to the Corporate Health and Safety Manager and Health & Safety Coordinator within 24 hours.

For more details, refer to Policy 12.0: Injury, Illness and Incident Prevention and Reporting Program.

4.8 Enforcement and Disciplinary System

Disciplinary action may be required when an accident occurs. Each case will be treated individually and may be evaluated among the employee, the employee's Supervisor, the Project Manager, the Principal-in-Charge, the Regional Vice President, and/or Corporate Health and Safety. The Vice President of Human Resources will be involved in all such cases.

5.0 REFERENCES

- 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations.*
- 29 CFR 1926.22, "Recording and Reporting of Injuries", *Code of Federal Regulations.*

1.0 PURPOSE

This Policy serves to protect employee hearing and to reduce the potential for noise-induced hearing loss, both acute and chronic.

2.0 SCOPE

This applies to all *SECOR* employees engaged in job-related activities where there is a potential for overexposure to noise.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section I, Part C, ***Personal Protective Equipment Requirements***

4.0 RESPONSIBILITIES

4.1 Corporate Health and Safety

The hearing conservation program will be administered and periodically reevaluated by the Corporate Health and Safety Manager. Hearing protection will be selected and approved by Corporate Health and Safety.

4.2 Principal-in-Charge

Principals-in-Charge will assure implementation with the hearing conservation program set forth in this Policy.

4.3 Project Manager

Project Managers will assure program compliance on their field sites.

4.4 Health & Safety Coordinator

The Health & Safety Coordinator will coordinate purchase of hearing protection as necessary. The Health & Safety Coordinator will also maintain local records on initial or

periodic audiometry clearance dates, which is inclusive with a physical exam.

4.5 Site Health and Safety Officer

The Site Health and Safety Officer will direct the use of hearing protection in the field as designated in the Health and Safety Plan.

4.6 Employee

Each employee must be current with medical clearance, including audiometric testing. The employee must wear hearing protection as required in the Health and Safety Plan. If an employee experiences any sudden or otherwise noticeable hearing loss, he or she must notify the Health & Safety Coordinator or the Corporate Health and Safety Manager immediately for evaluation of special audiometric testing.

5.0 ELEMENTS OF THE HEARING CONSERVATION PROGRAM

5.1 Medical Surveillance

No employee will be assigned to a task that involves potential noise exposure greater than 85 dBA on an 8-hour time-weighted average (the OSHA action level) without participating in *SECOR's* Health Monitoring Program (Policy 3.0). As one of many parameters of the *SECOR* medical program, field employees will undergo audiometric testing to determine baseline hearing acuity (Note: The baseline test should be proceeded by at least 14 hours without exposure to workplace noise). In addition, employees will be provided periodic update evaluations and follow-up notifications to monitor hearing and determine if an impairment has occurred. They may require other more frequent testing as determined by the Corporate Health and Safety Manager and contractor physician. The contractor physician will maintain all audiometric test results.

5.2 Noise Monitoring

Noise monitoring will be conducted as determined by the Corporate Health and Safety Manager for situations having potential noise exposure greater than 85 dBA on an 8-hour time-weighted average (the OSHA action level). The results of any noise monitoring available to employees directly involved with the evaluation and will be maintained by Corporate Health and Safety.

5.3 Hearing Protection

Hearing protection will be provided to all employees working under conditions where continuous noise levels are greater than 85 dB(A), the Permissible Exposure Limit for impact noise, as required by a Health and Safety Plan, or to any employee requesting hearing protection for diminishing job-related noise exposure. Hearing protection is required during all drilling or other heavy equipment operations. Hearing protection will normally consist of disposable foam inserts. In any case, hearing protectors must provide sufficient noise reduction to reduce noise levels to below exposure limits.

5.4 Training

Each employee receives instruction on noise exposure and personal protection during 40-hour Hazardous Waste Operations training. More detailed training on the use and application of hearing protective equipment may be provided on a project-specific basis as needed, and during Hazardous Waste Operations Refresher or Supervisor Training and periodic audiometric testing.

6.0 REFERENCES

- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations.*
- 29 CFR 1926, Subpart E, "Personal Protective and Lifesaving Equipment", *Code of Federal Regulations.*

1.0 PURPOSE

To prevent unnecessary radiation exposure to employees, and to assure that work involving radiation and radioactive materials is conducted according to regulations.

2.0 SCOPE

This policy pertains to all employees who work in field or building operations involving radioactive materials, including naturally occurring radioactive materials (NORM), special nuclear materials (SNM), and radiation producing machines.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section I, Part A, ***Predominant Potential Site Chemical Hazards***
- Section IV, Part E, ***Potential Non-chemical Hazards***

4.0 DEFINITIONS

Alpha Particle: A form of radiation consisting of a helium nucleus. Alpha particles are the largest of the radioactive particles and are easily stopped. Taken internally, however, they can do great damage.

As Low As Reasonably Achievable (ALARA): Basic principle of radiation protection, stating that doses from radioactive materials should be reduced to the lowest possible levels.

Beta Particle: An electron (or positron) emitted be a radionuclide. Electrons have low mass, and are much more penetrating than alpha particles.

Decontamination: Removal of radioactive material from the surface or interior of another material.

Dose-Response: The relationship between the dose of a chemical or physical agent and its corresponding effect.

Gamma Rays: Vert short wavelength electromagnetic radiation. Gamma rays have no mass, and travel with high frequency, making them highly penetrating.

NORM: Naturally occurring radioactive materials.

Special Nuclear Material (SNM): Radioactive material that is enriched in uranium or man-made fissile materials.

Technology Enhanced Naturally Occurring Radioactive Materials: Industrial processes or activities (mining operations, building materials) that increase the concentration of naturally occurring radioactive materials (NORM).

X-Rays: Penetrating electromagnetic radiation having a wavelength much shorter than visible light.

5.0 RESPONSIBILITIES

5.1 Corporate Health and Safety

The Vice President of Human Resources evaluates proposed work involving radiation. Corporate Health and Safety Manager will maintain copies of licenses, permits, and regulatory records as appropriate, and maintain copies of radiological health training records. Occupational exposure data will be reported to the contractor physician for medical review.

5.2 Project Manager

Project Managers are responsible for assuring that each radiation-related proposal and work effort has addressed compliance with regulations. This includes, but is not limited to, licensing, training, monitoring, notification, radiation protection plans, standard operating procedures, transportation, waste disposal issues and permits, and record keeping. The Project Manager will notify Corporate Health and Safety, a *SECOR* Health Physics Professional, and the Health & Safety Coordinator of proposals and projects regarding radiation issues. The Project Manager will initiate and secure Corporate Health and Safety approval of a special Health and Safety Plan for all radiation projects. The Project Manager will assure they copy all dosimetry reports to Corporate Health and Safety and a *SECOR* Health Physics Professional.

5.3 Health Physics Professional

SECOR Health Physics Professionals assist Corporate Health and Safety in formulating, and the Principal-in-Charge in implementing the radiological protection program. *SECOR* Health Physics Professionals also advise Project Managers and other *SECOR* professionals regarding radiation-related issues as part of planning and scoping work efforts. *SECOR* Health Physics Professionals will provide oversight on all projects involving radiation, including training, monitoring, dosimetry, and overall procedures.

5.4 Health & Safety Coordinator

Health & Safety Coordinators will assist the Project Manager(s) in preparing a special Health and Safety Plan for any radiation project and assure all employees have completed a Cumulative Occupational Exposure History form (available from Corporate Health and Safety), and the contractor physician has reviewed the History and cleared them before beginning work. The Health & Safety Coordinator will maintain a local file of training outlines and certificates, and forward copies to Corporate Health and Safety.

5.6 Employee

Before engaging in any work involving radiation, the employee must complete a Cumulative Occupational Exposure History form (available from Corporate Health and Safety). This form must be sent to all previous employers where radiation work was done. Therefore, the form must be sent out well before job start-up to secure clearance for *SECOR* work. Employees involved with radiation work efforts are responsible for being aware of and following license conditions, regulations, radiation control measures, and standard operating procedures for the project.

6.0 Training

Before engaging in any work involving radiation, initial training (followed by annual refresher training) should be conducted on the following radiation control topics:

- Radiation hazards,
- Radiation hazard locations,
- Methods to identify radiation hazards,
- Methods for employees to protect themselves (time, distance, and shielding), and
- Limitations of radioactive protective equipment (such as HEPA filters).

7.0 REFERENCES

- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations.*
- 10 CFR Part 20, *Code of Federal Regulations.*

1.0 PURPOSE

This procedure explains what requirements and precautions are needed by *SECOR* employees for an awareness level of understanding when working with asbestos containing materials (ACM). ACM include the following items:

- Thermal system insulation such as steam pipe insulation or boiler insulation.
- Sprayed-on fireproofing and acoustical treatments.
- Transite or cement-like panels used on walls or decking, and cement shingles.
- Gasket material such as that found on boiler doors.
- Brake shoes.
- Roofing felts and flashing.
- Vinyl asbestos floor tiles, linoleum and mastic.
- Plaster.
- Cloth connectors on ductwork.
- Older drywall and joint compounds.
- Ceiling tiles.

Most ACM stopped being manufactured in the late 1970's though items such as brake linings and gaskets were manufactured even later.

Intact ACM is not hazardous unless it is disturbed or the material deteriorates, causing loose fibers to become airborne and respirable. Inhalation of asbestos fibers may increase the risk of developing lung cancer or mesothelioma, a cancer of the lining of the lungs and abdominal area. Inhalation of ACM may also cause asbestosis, a scarring of the lungs. Concurrent exposure to asbestos and cigarette smoke may greatly increase the risk of lung cancer because these two substances act synergistically. This procedure outlines the steps needed to assure safe work with and around asbestos and asbestos-containing materials.

2.0 SCOPE

This procedure is for use during all operations and projects conducted by *SECOR* where exposure to asbestos containing materials is anticipated.

3.0 *SECOR* FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of *SECOR's* site specific Safety and

Health Plans (HASPs):

- Section IV, Part A, ***Predominant Potential Site Chemical Hazards***

4.0 DEFINITIONS

Competent person: The Site Health and Safety Officer or similar designee, holding certificates of completion of training under the Model Accreditation plan of the Asbestos Hazard Emergency Response Act of 1986 (AHERA) as an Asbestos Inspector.

Personal Exposure Limits: Personnel involved in asbestos-related work shall not be exposed to an 8-hour, time-weighted-average (TWA) airborne asbestos level exceeding 0.1 fibers per cubic centimeter of air (f/cc), or in 30 minutes excursions in excess of 1.0 fiber per cubic meter of air (1 f/cc).

Clearance Limits: The acceptable clearance level of asbestos for all samples in the area analyzed using PCM shall be less than 0.01 f/cc or a lower fiber concentration than that which existed before the start of the asbestos work.

5.0 REQUIREMENTS

A. Training

SECOR employees will receive asbestos awareness level training during 40-Hour Hazardous Worker Training and the annual 8-Hour Hazardous Worker Refresher Training. Training items will include the following:

- Classification of asbestos work
- Protective equipment requirements
- Work practice controls
- Medical clearance
- Air monitoring
- Negative exposure assessment criteria

B. Classification of Asbestos Work

There are two asbestos standards promulgated by the Occupational Safety and Health Administration (OSHA) that might effect Secor. 29 CFR 1926.1101 is for the construction industry and would regulate most asbestos survey and abatement work.

29 CFR 1910.1001 covers general industry. Both standards classify asbestos work as follows:

- **Class I** asbestos jobs involve the removal of thermal system insulation (TSI) and surfacing asbestos and suspect ACM.
- **Class II** asbestos jobs involve removal of asbestos and suspect ACM that are not TSI or surfacing. This includes, but is not limited to, wallboard, floor tile and sheeting, roofing and siding, and mastics.
- **Class III** asbestos jobs mean repair and maintenance operations where ACM is likely to be disturbed.
- **Class IV** asbestos jobs refer to maintenance and custodial activities where workers are likely to contact asbestos or suspect ACM or clean up waste and debris containing asbestos or suspect ACM.

C. Protective Equipment Requirements

1. Respiratory Protection

Respirators shall be used during emergencies, regardless of exposure, and for:

- All Class I asbestos work.
- All Class II work where the ACM is not removed in a substantially intact state.
- All Class II and III work.
- All Class IV work performed within regulated areas, where employees performing other work are required to wear respirators.
- All work specified in this section where employees are exposed above the TWA or excursion limit.

Negative-pressure respirators used for protection against asbestos must be fit-tested every 6 months, rather than the more usual 12-month refitting schedule. Only P-100 filters certified by NIOSH will be used.

2. **Protective Clothing**

   Employees shall use protective clothing (including coveralls or similar whole-body clothing) head coverings, gloves, and foot coverings when performing asbestos-related work. Clothing manufactured of *Tyvek* is most often selected. Protective clothing may be of the disposable type or may be reusable, and shall never be worn outside the immediate work area.

D. Work Practice Controls

The following work practice controls are needed for Class I asbestos work. Combinations of these controls as needed are required for other classes of asbestos work:

- Regulated areas.
- Critical barriers.
- Vacuum cleaners equipped with a HEPA filtration system.
- Ventilation with a HEPA filtration system.
- Glove bags.
- Isolation of existing HVAC systems (contamination control).
- Wet methods including amended water to minimize airborne dust creation
- Decontamination areas.

Do not work with ACM unless working under controlled conditions. Generally, tasks like cutting, sawing, drilling, abrading, using compressed air sprays, shoveling or sweeping ACM should be avoided where possible, even under controlled conditions.

Employees must ensure that they work together with another qualified individual on asbestos abatement sites. This second individual need not necessarily be another Secor employee.

This Secor policy should be NOT be considered to serve as a specification or design for asbestos abatement work.

D. Medical Surveillance

Medical surveillance is intended to identify and evaluate employees who are at

special risk with regard to asbestos work, to facilitate early detection of asbestos-related conditions, and to assess an employee's ability to wear a respirator. Medical surveillance shall be provided to all employees who:

- Prior to hire when the potential employee has had prior work experience performing ACM work.
- Engage in Class I, II, or III work for a combined total of 30 days or more a year.
- Are exposed at or above the PEL or excursion limit.
- Wear negative-pressure respirators for protection against asbestos for more than 30 days a year.
- Are required to wear negative-pressure respirators for protection against asbestos.
- Have had a significant occupational work history, as determined by a Health Services clinician.

E. Air Monitoring

1. Industrial hygiene air monitoring (breathing zone samples) should be provided, where appropriate, to ensure that no employee is exposed to an airborne concentration of asbestos in excess of the 8 hour and 30 minute exposure levels. Analysis of samples shall be conducted in a laboratory that is accredited by the American Industrial Hygiene Association (AIHA) that participates in the EPA's National Voluntary Laboratory Accreditation Program NVLAP) for asbestos.

2. Air samples shall be taken at the conclusion of the project and after cleaning the work area to determine if fiber levels are low enough to take down protective barriers. Criteria for clearance sampling shall be in accordance with AHERA, which is generally 0.01 f/cc of air or at least the pre-work air sampling results.

F. Negative Exposure Assessment Criteria.

For any asbestos job that will be performed by employees trained in compliance with this supplement, it may be possible to demonstrate that employee exposure will not exceed the PEL. Objective data must show that the product or material containing asbestos minerals, or the activity involving such product or material, cannot release

airborne fibers in concentrations exceeding the TWA and excursion limit under work conditions having the greatest potential for releasing asbestos. Where prior asbestos jobs have been monitored for the PEL and excursion limit within 12 months of the current or projected job, it must be shown that:

- The monitoring and analysis were performed in compliance with the asbestos standard in effect.
- The data were obtained during work operations conducted under workplace conditions "closely resembling" the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the employer's current operations.
- The operations were conducted by employees whose training and experience are no more extensive than that of individuals performing the current job.
- There is a high degree of certainty employee exposures will not exceed the TWA and excursion limit under the conditions prevailing in the current workplace.
- Initial air sampling included monitoring during that portion of the entire asbestos job which is most likely to result in exposure above the 8-hour TWA exposure or 30-minute excursion limit (i.e., the data are worst case).

6.0 RESPONSIBILITIES

6.1 Director of Industrial Hygiene and Safety (or suitable designee)

1. Issues policies and procedures designed to protect employees from asbestos exposure.
2. Provides guidance to Project Managers and other employees on minimizing exposures to ACM.
3. Coordinates with the SECOR Human Resources Department on the technical aspects of the development of the medical surveillance and recordkeeping portions of this program.
4. Will consider comments received on the implementation of this policy on an

annual or as needed basis to keep this program up to date and usable by employees.

5. Assists in the development of site health and safety plans as necessary.

6.2 Vice President Human Resources (or designee)

1. With technical input from the Director of Industrial Hygiene and Safety, establishes the medical surveillance program designed to examine and track the physical fitness of employees engaged in asbestos-related work.

2. Maintains the records associated with medical surveillance, training and air monitoring for employees with asbestos exposure.

6.3 Principals-In-Charge

1. Ensures that employees in his/her office who are potentially exposed to airborne asbestos concentrations are provided with proper physical examination, training, and fit-testing training prior to or at the time of the initial assessment, and at least annually thereafter. Generally, asbestos workers are required to complete a 40-hour asbestos worker course, and have training and fit testing completed for use of respirators. Supervisors are required to complete additional training.

6.4 Project Manager

1 Identifies a project as having potential asbestos exposure. An inspection and analysis of work areas with suspect ACM should be conducted before work is initiated. This should include drawings of the proposed work area; sampling and analysis of suspect materials. These inspections should be conducted by a competent person. Additionally, in many jurisdictions, this inspection must be conducted by a licensed professional.

2. Double checks to be sure that employees assigned to his/her project have received proper physical examination, training and fit-testing prior to beginning work on the project.

3. Provides industrial hygiene air monitoring (breathing zone samples), where appropriate, to ensure that no employee is exposed to an airborne concentration of asbestos in excess of the standards.

4. Instructs and monitors worker compliance with the plan.

6.5 Site Health and Safety Officer

1. Assists the Project Manager (or designee) in the preparation of a written plan.

2. The Site Health and Safety Officer is responsible for carrying out the HASP as directed by the Project Manager.

6.6 *SECOR* Employees

1. Read and understand this policy and any associated HASP or compliance plan.

2. Follow the requirements of the plan. Use controls as designed and as instructed in job documents and work packages. Use protective equipment as designed and as instructed. Perform work as instructed to reduce asbestos exposure potential.

3. Notify the Project Manager of any situation or question related to potential asbestos overexposure.

7.0 RECORDKEEPING

1. Records of medical surveillance and exposure will be kept for the length of employment of the employee plus 30 years.

8.0 REFERENCES

- 29 CFR 1926. 1101 "Asbestos Standard," Code of Federal Regulations.
- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

This procedure explains what requirements and precautions are needed for awareness level of understanding by *SECOR* employees when working around benzene. In the event of a benzene spill, *SECOR* employees should vacate the area.

Although exposure to benzene occurs primarily through inhalation, it can be absorbed through intact skin. Systemic absorption may cause depression of the blood forming organs, pencytopenia, aplastic anemia and leukemia. Chemical dermatitis may also occur with prolonged or repeated skin contact. Inhalation of high concentrations can affect the central nervous system. Benzene has also been listed as a suspected human carcinogen. This procedure outlines the steps needed to assure safe work with and around benzene and benzene-containing materials.

2.0 SCOPE

This procedure is for use during all operations and projects conducted by *SECOR* where exposure to benzene containing materials is anticipated.

3.0 *SECOR* FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of *SECOR's* site specific Safety and Health Plans (HASPs):

- Section IV, Part A, ***Predominant Potential Site Chemical Hazards***

4.0 DEFINITIONS

Action Level: Employee exposure without regard to the use of respirators to an airborne concentration of 0.5 ppm of benzene calculated as an 8-hour time weighted average (TWA).

Permissible Exposure Limit (PEL): The maximum allowable unprotected exposure to a substance as defined by the U.S. Occupational Safety and Health Administration (OSHA). For benzene, the PEL is an airborne concentration of 1.0 ppm calculated as an 8-hour time weighted average (TWA), and 5.0 ppm as a 15-minute short term exposure limit (STEL).

Threshold Limit Value (TLV): The maximum allowable unprotected exposure to a substance as defined the American Conference of Governmental Hygienists (ACGIH). For benzene, the TLV is an airborne concentration of 0.5 ppm as an 8-hour time weighted average (TWA), and 2.5 ppm as a skin 15-minute short term exposure limit (STEL).

Competent person: The Site Health and Safety Officer or similar designee, who is capable of identifying existing and predictable benzene hazards in the surroundings or work conditions, and who has the authorization to take prompt corrective measures to eliminate them.

5.0 RESPONSIBILITIES

5.1 Director of Industrial Hygiene and Safety (or suitable designee)

1. Issues policies and procedures designed to protect employees from benzene exposure.

2. Provides guidance to Project Managers and other employees on minimizing exposures to ACM.

3. Coordinates with the SECOR Human Resources Department on the technical aspects of the development of the medical surveillance and recordkeeping portions of this program.

4. Will consider comments received on the implementation of this policy on an annual or as needed basis to keep this program up to date and usable by employees.

5. Assists in the development of site health and safety plans as necessary.

5.2 Vice President Human Resources (or designee)

1. With technical input from the Director of Industrial Hygiene and Safety, establishes the medical surveillance program designed to examine and track the physical fitness of employees engaged in benzene-related work.

2. Maintains the records associated with medical surveillance, training and air monitoring for employees with benzene exposure.

5.3 Principals-In-Charge

1. Ensures that employees in his/her office who are potentially exposed to airborne benzene concentrations are provided with proper physical examination, training, and fit-testing training prior to or at the time of the initial assessment, and at least annually thereafter. Generally, employees are required to complete the OSHA 40-hour HAZWOPER course, and have training and fit testing completed for use of respirators.

5.4 Project Manager

1. Identifies a project as having benzene exposure potential.

2. Takes the lead in developing, scheduling, implementing, and keeping current a written comprehensive plan for reducing employee exposure to benzene primarily by means of engineering and work practice controls, as part of the site-specific Health and Safety Plan (HASP). If needed, contacts the Site Health and Safety Officer and/or the SECOR Director of Industrial Hygiene and Safety to assist in the preparation of a written comprehensive plan. The plan should consist of at least the following elements, if applicable:

   - Time period/schedule necessary to implement engineering controls or work practices.
   - Situations where engineering and work practice controls are not feasible (such as emergencies), requiring the use of respiratory protection (per the requirements of 29 CFR 1910.134 *"Respiratory Protection"*). Respirators shall be selected according to airborne concentrations of benzene or conditions of use (see Appendix 1).
   - Personal protective equipment when worn should prevent eye contact and limit dermal exposure to liquid benzene (see Appendix 1).
   - Identification of employees who are or may be exposed to benzene at or above the action level 30 or more days per year, for inclusion in a medical monitoring program.
   - Plans should be reviewed and revised to reflect the most recent exposure monitoring data.

3. Instructs and monitors worker compliance with the plan. The plan should be accessible to affected employees, designated employee representatives, and OSHA.

5.5 Site Health and Safety Officer

1. Assists the Project Manager in the preparation of a written comprehensive plan. The Site Health and Safety Officer will seek the guidance and approval of the Director of Industrial Hygiene and Safety as necessary.

2. Follow the requirements of the plan. Use controls as designed and as instructed in job documents and work packages. Use protective equipment as designed and as instructed. Perform work as instructed to reduce benzene exposure potential.

3. Notify the Project Manager of any situation related to potential benzene overexposure.

6.0 Medical Surveillance

Medical surveillance is intended to evaluate the health of employees who are exposed to benzene. Medical surveillance shall be provided to all employees who have benzene exposure.

7.0 Air Monitoring

Industrial hygiene air monitoring (breathing zone samples) should be provided, where appropriate, to ensure that no employee is exposed to an airborne concentration of benzene in excess of the 8 hour and 30 minute exposure levels. Analysis of samples shall be conducted in a laboratory that is accredited by the American Industrial Hygiene Association (AIHA).

8.0 RECORDKEEPING

1. Records of medical surveillance and exposure will be kept for the length of employment of the employee plus 30 years.

9.0 REFERENCES

- 29 CFR 1910.1028, "Benzene Standard," *Code of Federal Regulations.*
- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations.*

Appendix 1

Approved Personal Protective Equipment
(Including Respiratory Protection)
To Include in HASP
For Use Around Benzene

Level D : Safety glasses, hard hat, disposable ear plugs, sturdy work boot.

No respirator required.

Gloves Inner: 0.011-inch gauge Nitrile

Chemical resistant boots or boot covers: Neoprene or PVC

Chemical resistant suit: Tyvek for to be worn preventing chemical contamination of clothing.

Level C: Level D plus:

Full face air-purifying respirator organic vapor cartridge (such as MSA Ultra Twin Respirator with Organic GMA Vapor Cartridge)

Gloves Inner: 0.008-inch gauge Nitrile Outer: 0.011-inch gauge Nitrile

Chemical resistant boots or boot covers: Neoprene or PVC

Coveralls: Saranax

Level B: Level C plus:

Full face self contained breathing apparatus (such as Scott Air-Pak)

Gloves Inner: 0.008-inch gauge Nitrile Outer: 0.011-inch gauge Nitrile

Chemical resistant boots or boot covers: Neoprene or PVC

Coveralls: Saranax

1.0 INTRODUCTION

"Bloodborne pathogens" refer to disease-causing organisms such as viruses (i.e., HIV, HBV) that can be carried in the blood. When the Occupational Safety and Health Administration (OSHA) refers to "bloodborne" pathogens it also includes other bodily fluids such as urine. Exposure to bloodborne pathogens may occur through:

- Contact with the fluids of an injured and infected individual during an emergency.
- Contact with equipment contaminated with blood or other infectious materials.
- During waste handling activities.

The risk of infection following contact with contaminated equipment or blood varies, depending on the nature and extent of actual exposure to the infectious agent. The "universal precaution" approach to infection control is to treat all human blood and other human bodily fluids as if known to be infected with HIV, HBV, and other pathogens.

2.0 SCOPE

The Occupational Safety and Health Administration (OSHA) "Suggested Employment Classification Scheme" categorizes employees into four major groups: A, B, C, and D. Whenever the possibility of occupational exposure does exist, *SECOR* will provide personal protective equipment in the proper size at no cost. Engineering and workpractice controls will be used to eliminate or minimize employee exposure, and should be examined, maintained or replaced on a regular schedule.

Affected *SECOR* employee classifications involve mainly hazardous waste workers and emergency first aid responders.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of *SECOR's* site-specific Safety and Health Plans (HASPs):

- Section IV, Part E, ***Potential Non-Chemical Hazards***

4.0 RESPONSIBILITIES

4.1 Director of Industrial Hygiene and Safety (or suitable designee)

1. Issues policies and procedures designed to protect employees from exposure to bloodborne pathogens.

2. Provides guidance to Project Managers and other employees on minimizing exposure to bloodborne pathogens.

3. Coordinates with the SECOR Human Resources Department on the technical aspects of the development of the medical surveillance and recordkeeping portions of this program.

4. Will consider comments received on the implementation of this policy on an annual or as needed basis to keep this program up to date and usable by employees.

5. Assists in the development of educational and plans as necessary.

4.2 Vice President Human Resources (or designee)

1. With technical input from the Director of Industrial Hygiene and Safety, establishes the medical surveillance program designed to examine and track the physical fitness of employees engaged in benzene-related work.

2. Maintains the records associated with medical surveillance and training for employees with exposure to bloodborne pathogens.

4.3 Principals-In-Charge

1. Ensures that employees in his/her office who are potentially exposed to bloodborne pathogens are provided with proper training and medical care prior to or at the time of the initial assessment, and at least annually thereafter.

2. Hepatitis B vaccine will be made available to all *SECOR* emergency first aid responders, and others who may expect to be exposed to bloodborne pathogens, at no cost. For employees who voluntarily decline the Hepatitis B vaccine, a form is included (see Appendix 2) to document their decision.

5.4 Project Manager

1. Identifies a project as having a potential for bloodborne pathogens and ensures that employees assigned to the project have had proper training.

4.5 Site Health and Safety Officer

1. Assists the Project Manager in the preparation of a written comprehensive plan that should address the potential for exposure to bloodborne pathogens just as it would benzene, asbestos or other contaminants. The Site Health and Safety Officer will

seek the guidance and approval of the Director of Industrial Hygiene and Safety as necessary.

2. Follow the requirements of the plan. Use controls as designed and as instructed in job documents and work packages. Use protective equipment as designed and as instructed.

3. Notify the Project Manager of any situation related to potential bloodborne pathogens exposure.

4.6 Hazardous Waste Workers

According to the OSHA classification scheme, hazardous waste workers are examples of employees whose jobs may pose no or a low risk of exposure (Group C) to infectious materials. The safe work practices that follow apply to the general duties associated with this classification.

- Use gloves whenever you anticipate touching waste marked with a biohazard symbol or waste from medical or biotechnology facilities, and when handling items or surfaces grossly contaminated with blood and bodily fluids.
- Immediately and thorough wash your hands and other skin surfaces with water and an antiseptic cleanser if contaminated with blood or other bodily fluids.
- *Immediately wash your hands upon removing gloves.*
- Wear eye protection when handling waste containers.
- Take the necessary precautions to prevent injuries caused by sharp objects.
- If blood is splashed on clothing, it too becomes subject to regulation. Immediately remove clothing that becomes contaminated with blood or other bodily fluids. Contaminated laundry should be handled as little as possible and placed in bags labeled with the red biohazard warning for hazardous waste disposal.
- Immediately clean areas or equipment that becomes contaminated with blood or other bodily fluids (suggest a mild solution of household bleach).

4.7 Emergency First Aid Responders

According to the OSHA classification scheme, emergency first aid responders are examples of employees whose jobs may pose low risk to moderate risk of exposure (Group B) to infectious materials. In addition to all the safe work practices listed above for hazardous waste workers, the following practices must be followed:

- Emergency work practice controls shall be used to eliminate or minimize employee exposure. Bloodborne pathogen kits (see Appendix 1 for suggested kit vendors) should be used where contact with blood or other infectious materials is possible.

- Specimens of blood or other potentially infectious materials must be put in leak proof bags for handling.
- Hepatitis B vaccine will be made available to all *SECOR* emergency first aid responders at no cost. For employees who voluntarily decline the Hepatitis B vaccine, a form is included (see Appendix 2) to document their decision.

5.0 TRAINING REQUIREMENTS

Employees with low to moderate risk of exposure to infectious materials will be informed of the hazards and provided with necessary skills for dealing with the hazards. Employees must be trained at the time of initial assignment, and at least annually thereafter as part of the 8-Hour HAWOPER Refresher Training. The training program will be designed to the level of the audience, and include the following elements:

- An explanation of the contents of the Bloodborne Pathogen Standard, and an accessible copy of the standard;
- A general explanation of the epidemiology and symptoms of bloodborne diseases, and the modes by which bloodborne disease is transmitted;
- An explanation of the exposure-control plan and the means by which an employee can obtain a copy;
- An explanation of how employees can recognize exposure situations and the practices to prevent exposure;
- Selection and handling of personal protective equipment including the types to be used, proper use of the equipment, location, handling, removal and decontamination procedures to be followed;
- Information on HBV vaccine including effectiveness, safety, method of administration, benefits of vaccination, and that it is free of charge;
- Post-incident procedures to follow, including how to report the incident and medical follow-up to be provided;
- An explanation of the signs, labels and color coding (see Appendix 3) that will be used on containers, laundry, and waste.

6.0 RECORDKEEPING

All training records and medical records will be maintained by the *SECOR* Human Resources Department, and made available upon the request of the employee and OSHA for examination and copying (with the written consent of the employee before release).

7.0 REFERENCES

- Title 29, Part 1910.1030, "Occupational Exposure to Bloodborne Pathogens", *Code of Federal Regulations.*
- U.S. Department of Health and Human Services, "Update: Universal Precautions for Prevention of Transmission of Human Immunodeficiency Virus, Hepatitis B Virus,

and Other Bloodborne Pathogens in Health-Care Settings," Morbidity and Mortality Weekly Report, 37(24), (Public Health Service, June 24, 1988).

Appendix 1
Suggested Bloodborne Pathogen Kit Vendors

Vendor	Product	Telephone No.
Clarey's Safety Equipment 3555 9th Street Suite 200 Rochester, MN 55901	#00122 Bloodborne Pathogens Kit	1(800) 624-5526
CDX One Richmond Square Providence, RI 02906	Biohazard Kits	1(800) 245-9949
H&S Manufacturing Inc. 727 East Broadway P.O. Box B Williston, ND 588801	HEP-AID Kits	(701) 572-5400
CDX Corporation 75 McNeil Way Dedham, MA 02026	BioSponse Kits	1(800) 245-9949
DT Labs/Bio-Protective Products, Inc. 625 Armstrong Avenue St. Paul, MN 55102	Bio-Wipe Bag	1(800) 774-5224
OBF Industries, Inc. 2719 Curtiss Street Downers Grove, IL 60515	Vital 1 First Responders Kit	1(800) 848-5663

Appendix 2
Form for Declining Hepatitis B Vacine

SECOR Hepatitis B Vaccine Declination

I understand that due to my occupational exposure to blood or other infectious materials that I may be at risk of acquiring Hepatitis B virus infection. I have been given the opportunity to be vaccinated with the Hepatitis B vaccine at no charge to myself. However, I decline the Hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want the Hepatitis B vaccine, I can receive the vaccination series at no charge to me.

(Print name)_____

(Title)_____

(Date)_____

(Signature)_____

Appendix 3
Suggested Biohazard Signs and Labels

The bloodborne pathogen standard includes a provision for warning signs, labels and the use of red bags or red containers for disposal. When labels are used, they must display the universal biohazard symbol and include the word "Biohazard". They must be colored fluorescent orange or orange-red with lettering and symbols in a contrasting color such as black, blue or green.

1.0 PURPOSE

This procedure explains what requirements and precautions are needed by Secor employees when working with cadmium. Cadmium is the cause a wide variety of health effects. Overexposure to cadmium can cause severe fatigue, weakness, and chronic cough. Other long-term overexposure symptoms are characterized by weight loss, pneumonitis, and lung injury. Cadmium has also been listed as a suspected human carcinogen. This procedure outlines the steps needed to assure safe work with and around cadmium and cadmium-containing materials.

2.0 SCOPE

This procedure is for use during all operations and projects conducted by Secor where exposure to cadmium containing materials is anticipated.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section I, Part A, ***Predominant Potential Site Chemical Hazards***

4.0 DEFINITIONS

Action Level: Employee exposure without regard to the use of respirators to an airborne concentration of 2.5 micrograms of cadmium per cubic meter of air (ug/m^3) calculated as an 8-hour time weighted average (TWA).

Permissible Exposure Limit (PEL): The maximum allowable unprotected exposure to a substance as defined by the U.S. Occupational Safety and Health Administration (OSHA). For cadmium, the PEL is an airborne concentration of 5.0 micrograms of cadmium per cubic meter of air (ug/m^3) calculated as an 8-hour time weighted average (TWA).

Competent person: The Site Health and Safety Officer or similar designee, who is capable of identifying existing and predictable cadmium hazards in the surroundings or work conditions, and who has the authorization to take prompt corrective measures to eliminate them.

5.0 RESPONSIBILITIES

5.1 Project Manager (or designee)

1. Identifies a project as having cadmium exposure potential.

2. Takes the cadmium in developing comprehensive compliance plan for working with cadmium as part of job documentation. If needed, contacts the Site Health and Safety Officer and/or the Corporate Health and Safety Manager to assist in the preparation of a written comprehensive compliance plan. The plan should consist of at least the following elements, if applicable:

   - Results of bulk sampling of suspected cadmium-containing materials.
   - A detailed description of the project, including equipment, materials and controls to be used, crew size and job responsibilities, operating procedures, signs at the work area, and maintenance practices.
   - A description of the methods used to protect workers from exposure. This includes engineering plans and studies describing the engineering controls to be employed, if they are to be used, and alternatives studied.
   - A detailed implementation schedule, including copies of purchase requisitions and subcontracts, as appropriate.
   - Hazard communication practices amongst different contractors on the project, if needed.
   - Medical monitoring of exposed workers.
   - Exposure assessment and personal air monitoring and/or biological monitoring requirements.
   - Setting up a cadmium-regulated work area for the operations.
   - Respiratory protection and protective clothing.
   - Facilities for proper personal hygiene, including, if needed, clean storage of personal clothing, hand and face washing, or showers, as appropriate.

3. Instructs and monitors worker compliance with the plan. This includes informing employees of Appendix A & B of the cadmium regulation.

5.2 Site Health and Safety Officer and/or the Corporate Health and Safety Manager

1. Assists the Project Manager (or designee) in the preparation of a written comprehensive compliance plan (which needs to be updated every six months).

5.3 Secor Employees

1. Read and understand the comprehensive compliance plan.

2. Follow the requirements of the plan. Use controls as designed and as instructed in job documents and work packages. Use protective equipment as designed and as instructed. Perform work as instructed to reduce cadmium exposure potential.

3. Notify the Project Manager of any situation related to potential cadmium overexposure.

6.0 REFERENCES

- 29 CFR 1926.62, "Cadmium in Construction," *Code of Federal Regulations.*
- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response for the Construction Industry, " *Code of Federal Regulations.*

1.0 PURPOSE

This procedure is for use during all operations and projects conducted by *SECOR* where there is potential for falls.

2.0 SCOPE

Fall protection is required wherever employees are potentially exposed to falls from heights of six feet or greater. This includes work around excavations.

3.0 *SECOR* FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of *SECOR's* site specific Safety and Health Plans (HASPs):

- Section II, Part G, ***Excavation and Trenching***
- Section IV, Part E, ***Potential Non-chemical Hazards***

4.0 RESPONSIBILITIES

4.1 Director of Industrial Hygiene and Safety (or suitable designee)

1. Issues policies and procedures designed to protect employees from fall hazards.
2. Provides guidance to Project Managers and other employees on minimizing the chance of falls.
3. Coordinates with the SECOR Human Resources Department on the technical aspects of the development of the training and recordkeeping portions of this program.
4. Will consider comments received on the implementation of this policy on an annual or as needed basis to keep this program up to date and usable by employees.
5. Assists in the development of educational materials and plans as necessary.

4.2 Vice President Human Resources (or designee)

1. With technical input from the Director of Industrial Hygiene and Safety, establishes the training program designed to instruct employees about fall hazards and precautions.
2. Maintains the records associated with training.

4.3 Principals-In-Charge

1. Ensures that employees in his/her office receive proper training about falls and precautions.

4.4 Site Safety and Health Officers

1. Identify the potential for falls during a project.
2. Develop a Fall Production Work Plan to protect employees from falls.
3. Assist in training employees in the precautions for falls on the project.

4.5 Project Management

1. Project Manager shall ensure that employees assigned to his/her projects have received a fall protection training program if the project could possibly involve falls.
2. Ensure that compatible fall protection equipment is available for employee use.
3. Ensure that walking/working surfaces have the strength and structural integrity to support employees safely.
4. Ensure a Fall Production Work Plan is prepared and used in fall hazard situations.

4.6 *SECOR* Staff

1. Employees shall perform work in accordance with requirements set forth in this standard.

5.0 GENERAL REQUIREMENTS

Each employee on a walking/working surface with an unprotected side or edge which is six feet or more in height shall be protected from falling by a guardrail or by a personal fall restraint/fall arrest system.

Fall restraint/fall arrest systems shall be designed and installed by competent persons.

All fall restraint/arrest equipment used to protect employees shall be assembled as recommended by the manufacturer.

Fall protection equipment shall be inspected, used, and maintained in accordance with manufacturer recommendations.

Fall protection equipment (belts, harnesses, lanyards, hardware assemblies, etc.) shall have a minimum tensile strength of 5,000 pounds.

Unless designed specifically for the application, snaphooks shall not be attached to webbing, rope or wire rope, each other, a dee-ring that has another snaphook or connector attached, a horizontal lifeline, or any object, which is incompatibly shaped.

Fall protection systems subjected to impact loading shall be immediately removed from service and inspected by a competent person.

5.1 Fall Restraint Requirements

Fall Restraint shall consist of standard guardrail, harnesses or safety belts attached to a securely rigged restraint line, warning line/safety monitor systems or a combination of these.

Anchorage points shall be capable of supporting four times the intended load.

Restraint protection shall be rigged to allow movement of employees only as far as the sides and edges of the walking/working surface. In no case shall the restraint line be so long as to allow the employee to fall off the walking/working surface.

5.2 Fall Arrest Requirements

A full body harness must be used for fall arrest; "*safety belts shall not be used.*"

The fall arrest systems(s) shall be designed to:

- Limit free fall to a maximum of 6 feet,
- Limit the arresting forces to no more than 1,800 pounds, and
- Limit deceleration distance to 3.5 feet.

Anchorages used for the attachment of personnel shall be capable of supporting at least 5,000 pounds per employee.

Self-retracting lifelines and lanyards, which automatically limit free fall distance to 2 feet or less, shall be capable of sustaining a minimum tensile load of 3,000 pounds. An anchorage capable of supporting 3,000 pounds shall be used for this system.

6.0 OTHER FALL PROTECTION APPLICATIONS

6.1 Safety Nets

Safety nets shall be used, maintained and inspected in compliance with manufacturer's instructions.

6.2 Boom Supported Elevating Work Platforms

Boom supported elevating work platforms shall be used, maintained, and inspected in compliance with manufacturer instructions.

Personnel shall maintain a firm footing on the work platform floor. A full body harness and a lanyard attached to the manufacturer-approved anchorage point shall be used by all occupants. Each employee shall attach to the anchorage point as soon as he/she enters the work platform.

6.3 Self Propelled Elevating Work Platforms

Self propelled elevating work platforms shall be used, maintained, and inspected in compliance with manufacturer instructions.

The work platform shall be equipped with a guardrail (42 inches plus or minus 3 inches in height), a midrail and toe boards (no less than 4 inches high). Personnel shall maintain a firm footing on the platform floor. Fall restraint or fall arrest is required if an employee must go under, through or over the guardrail to complete his/her job. Climbing on guardrails is prohibited.

6.4 Crane and Derrick Supported Work Platforms

Crane and derrick supported work platforms shall be constructed, used, maintained, and inspected in compliance with manufacturers instructions.

Personnel shall maintain a firm footing on the work platform floor. A full body harness and a lanyard attached to the manufacturer-approved anchorage point shall be used by all occupants. Each employee shall attach to the anchorage point as soon as he/she enters the work platform.

7.0 TRAINING

SECOR employees will receive fall protection training covering the requirements listed above during their 40-Hour Hazardous Worker Training.

8.0 REFERENCES

- 29 CFR 1926.500, *Fall Protection*
- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations.*
- 29 CFR 1926, Subpart E, "Personal Protective and Lifesaving Equipment", *Code of Federal Regulations.*

1.0 PURPOSE

This procedure is to ensure immediate emergency first aid is available to employees before the emergency medical services (EMS) system responds. Additionally, this procedure defines those requirements set forth in 29 CFR 1926.50 "Medical Services/First Aid".

2.0 SCOPE

The scope of this procedure involves providing prompt medical attention to employees in case of a serious injury, when emergency medical services cannot be reached within a reasonable response time.

3.0 *SECOR* FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of *SECOR's* site specific Safety and Health Plans (HASPs):

- Section I, Part A, ***Predominant Potential Site Chemical Hazards***

4.0 DEFINITIONS

First Aid: The extent of treatment that could be expected to be given by a person trained in basic first aid, including cardiopulmonary resuscitation (CPR), using supplies from a first aid kit (see Appendix 1-3).

Bloodborne Pathogen Kit: Disposable protection kit to prevent exposure to communicable diseases.

Response Time: The time period from when the emergency medical service is called for assistance and when they reach the injured person(s) side.

5.0 RESPONSIBILITIES

5.1 Director of Industrial Hygiene and Safety (or suitable designee)

1. Issues policies and procedures designed to protect employees from foreseeable hazards.

2. Provides guidance to Project Managers and other employees on providing the best care to employees in the event of an emergency.

3. Coordinates with the *SECOR* Human Resources Department on the technical aspects of the development of the training and recordkeeping portions of this program.

4. Will consider comments received on the implementation of this policy on an annual or as needed basis to keep this program up to date and usable by employees.

5. Assists in the development of educational materials and plans as necessary.

5.2 Vice President Human Resources (or designee)

1. With technical input from the Director of Industrial Hygiene and Safety, establishes the training program designed to ensure the proper training of employees about avoiding hazards and first aid.

2. Maintains the records associated with training and incidents requiring first aid/medical attention.

5.3 Principals-In-Charge

1. Ensures that employees in his/her office receive proper first aid training.

2. Depending upon the nature of the incident, Corporate Human Resources shall be contacted to inform them of the incident.

5.4 Project Manager

1. Determines if his employees' work areas are within a reasonable response time range of the emergency medical services system (i.e., fire departments, ambulances, or paramedics).

2. If any *SECOR* worksites are located outside a reasonable response time range, then provision must be made for at least one person with valid first aid certificate assigned on that worksite. Additionally, it must be ensured that each person certified to perform first aid is trained on bloodborne pathogen exposure.

3. Inform the PIC of the incident requiring first aid/medical attention.

5.5 Site Health and Safety Officer

1. Identify the potential for hazards of a project.

2. Develop a work plan to minimize hazards where possible.

3. Ensures the availability of first aid supplies and bloodborne pathogen kits. Kits should be comprised of individual sealed packages of each type of supply, and stored in a weatherproof container which is easily assessable when required. The contents of the kits should be checked prior to starting the project, and at least weekly by the Site Health and Safety Officer (or an individual designated by him) to ensure that the expended items are replaced. Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities (eyewash or shower) shall be provided within the work area.

4. Ensures that as required by the site specific Health and Safety Plan (HASP), prompt transportation of the injured person to a physician or hospital or a communication system for contacting necessary ambulance services shall be provided. The Site Health and Safety Officer will ensure that the telephone number of the physician, hospital, or ambulance be conspicuously posted.

5. Once satisfactory medical attention has been obtained for the injured employee, an accident investigation shall be performed to identify the root cause of the injury. An action plan shall then be determined to avoid future similar injuries/illnesses.

6. Inform the Project Manager of the incident.

5.6 *SECOR* Staff

1. Employees shall be cognizant of when their training in first aid has expired and seek refresher training.

6.0 REFERENCES

- 29 CFR 1926.22, "Recording and Reporting of Injuries", *Code of Federal Regulations.*
- 29 CFR 1926.50,"Medical Services and First Aid", *Code of Federal Regulations.*
- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response for the Construction Industry, " *Code of Federal Regulations.*
- ANSI Standard Z308.1[1998].

Appendix 1
Suggested First Aid Kit Contents

The following items are suggested as the minimum assortment and quantity (per ANSI Standard Z308.1[1998]) of contents for *SECOR* first aid kits. Note that a Bloodborne Pathogens Kit is also required.

Quantity	Description
1	Absorbent Compress, 32 sq. in. with no side smaller than 4 in.
16	Adhesive Bandages, 1 x 3 in.
1	Adhesive Tape, 5 yds.
10	Antiseptic, 0.5 g (0.14 fl. oz.) application
6	Burn Treatment, 0.5 g (.014 fl. oz.) application
4	Medical Exam Gloves
4	Sterile Pad, 3 x 3 in.
1	Triangular Bandage, 40 x 40 x 56 in. - 1 each

In addition to the basic contents, optional items should be included to augment a kit, based on the specific hazards existing in a particular work environment.

Appendix 2

Suggested Vendors for First Aid and Bloodborne Pathogens Kits

Vender Name & Address	*First Aid Product*	*Bloodborne Pathogens Kit Product*	*Phone Number*
Clarey's Safety Equipment 3555 9th Street Suite 200 Rochester, MN 55901	First Aid Kits	#00122 Bloodborne Pathogens Kit	(800) 624-5526
CDX One Richmond Square Providence, RI 02906		Biohazard/BioSponse Kits	(800) 245-9949
H&S Manufacturing Inc. 727 East Broadway P.O. Box B Williston, ND 588801	First Aid Kits	HEP-AID Kits	(701) 572-5400
DT Labs/Bio-Protective Products 625 Armstrong Avenue St. Paul, MN 55102		Bio-Wipe Bag	1(800) 774-5224
OBF Industries, Inc. 2719 Curtiss Street Downers Grove, IL 60515	First Responders Kit	Vital 1	1(800) 848-5663
Quick-Aid, Inc. 6400Regency Parkway Suite 600 Norcross, GA 30071	First Aid Kits		(770) 840-7777
Top Safety Products 160 Meister Ave. Suite 16 Branchburg, NJ 08876	First Aid Kits		(908) 707-8680

1.0 PURPOSE

This procedure explains what requirements and precautions are needed by *SECOR* employees for an awareness level of understanding when working with hydrogen sulfide. In the event of a release of hydrogen sulfide, *SECOR* employees should follow the instructions documented in the health and safety plan, and vacate the area, if necessary.

Hydrogen sulfide (see Attachment 1) presents a flammability concern and is the cause a wide variety of health effects. Acute overexposure to hydrogen sulfide can cause severe fatigue, weakness, and chronic cough. Other long-term overexposure symptoms are characterized by weight loss, pneumonitis, and lung injury.

2.0 SCOPE

This procedure is for use during all operations and projects conducted by *SECOR* where potential exposure to hydrogen sulfide containing materials could be anticipated.

3.0 *SECOR* FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of *SECOR's* site specific Safety and Health Plans (HASPs):

Section I, Part A, ***Predominant Potential Site Chemical Hazards***

4.0 DEFINITIONS

Action Level: Employee exposure without regard to the use of respirators to an airborne concentration of 5.0 ppm of hydrogen sulfide calculated as an 8-hour time weighted average (TWA).

Permissible Exposure Limit (PEL): The maximum allowable unprotected exposure to a substance as defined by the U.S. Occupational Safety and Health Administration (OSHA). For hydrogen sulfide, the PEL is an airborne concentration of 10.0 ppm calculated as an 8-hour time weighted average (TWA).

Competent person: The Site Health and Safety Officer or similar designee, who is capable of identifying existing and predictable hydrogen sulfide hazards in the surroundings or work conditions, and who has the authorization to take prompt corrective measures to eliminate them.

5.0 RESPONSIBILITIES

5.1 Director of Industrial Hygiene and Safety (or suitable designee)

1. Issues policies and procedures designed to protect employees from hydrogen sulfide exposure.

2. Provides guidance to Project Managers and other employees on minimizing exposures.

3. Coordinates with the SECOR Human Resources Department on the technical aspects of the development of the medical surveillance and recordkeeping portions of this program.

4. Will consider comments received on the implementation of this policy on an annual or as needed basis to keep this program up to date and usable by employees.

5. Assists in the development of site health and safety plans as necessary.

5.2 Vice President Human Resources (or designee)

1. With technical input from the Director of Industrial Hygiene and Safety, establishes the medical surveillance program designed to examine and track the physical fitness of employees engaged in chemical-related work.

2. Maintains the records associated with medical surveillance, training and air monitoring for employees with hydrogen sulfide exposure.

5.3 Principals-In-Charge

1. Ensures that employees in his/her office who are potentially exposed to airborne hydrogen sulfide concentrations are provided with proper physical examination, training, and fit-testing training prior to or at the time of the initial assessment, and at least annually thereafter. Generally, employees are required to complete the OSHA 40-hour HAZWOPER course, and have training and fit testing completed for use of respirators.

5.4 **Project Manager (or designee)**

1. Identifies a project as having hydrogen sulfide exposure potential. This may involve projects such as drilling operation, field maintenance, tanks, and wells.

2. Takes the lead in developing a compliance plan for working with hydrogen sulfide as part of job documentation. If needed, contacts the Site Health and Safety Officer and/or the Director of Industrial Hygiene and Safety to assist in the preparation of a written comprehensive compliance plan. The plan should consist of at least the following elements, if applicable:

- Results of sampling of areas or situations suspected of containing hydrogen sulfide.

- A detailed description of the project, including equipment, materials and controls to be used, operating procedures, and warning signs at the work area.

- A description of the methods used to protect workers from exposure. This includes engineering plans and studies describing the engineering controls to be employed, if they are to be used, and alternatives studied.

- Personal or area monitor alarms that alarm when the airborne concentration of hydrogen sulfide exceeds the permissible exposure limit. When the alarm sounds, workers should leave the area and not re-enter without proper respiratory protection.

- Respiratory protection and protective clothing. Negative pressure cartridge respirators (such as the North 7600-8A Full Face Piece with a 75SC Cartridge) can be used in escape only situations. Self Contained Breathing Apparatus (such as a Scott Air Pak) or airline respirators (such as MSA Comfo Flow) should be used if hydrogen sulfide is present.

- Special precautions must be taken when working inside tanks or vessels that are suspected of containing hydrogen sulfide (see *SECOR* Standard Safety Procedure #2 *"Confined Space Entry"* for safety requirements and training).

- Awareness of site owners contingency plans and provisions.

3. Instructs and monitors worker compliance with the plan.

5.5 Site Health and Safety Officer

1. Assists the Project Manager (or designee) in the preparation of a written comprehensive compliance plan (which needs to be updated every six months).

5.6 *SECOR* Employees

1. Read and understand the comprehensive compliance plan.

2. Follow the requirements of the plan. Use controls as designed and as instructed in job documents and work packages. Use protective equipment as designed and as instructed. Perform work as instructed to reduce hydrogen sulfide exposure potential.

3. Notify the Project Manager of any situation related to potential hydrogen sulfide overexposure.

6.0 REFERENCES

- 29 CFR 1926.1127, "Hydrogen Sulfide in Construction," *Code of Federal Regulations.*
- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response for the Construction Industry, " *Code of Federal Regulations.*

Attachment 1

Hydrogen Sulfide

Synonyms: Sulfuretted hydrogen; hydrosulfonic acid; hepatic acid.

Color/Description/Detection: Colorless gas with a strong odor of rotten eggs; liquid at high pressure, low temperature. Sense of smell becomes rapidly fatigued and cannot be relied upon to warn of the continuous presence of hydrogen sulfide.

Flash point: Flammable gas

Flammable limits in air: 4.3 – 45%

Toxic Byproducts: Can emit toxic fumes under fire conditions.

Solubility in Water: 2.9% at 20°C

Vapor Density: 1.2 Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back.

Specific Gravity: 1.539 G/L @ 32°F

Boiling Point: -78°F, -61°C
Melting Point: -123°F, -86°C

1.0 PURPOSE

This procedure explains what requirements and precautions are needed by Secor employees when working with lead. Lead is the cause a wide variety of health effects. Overexposure to lead can cause severe fatigue, weakness, and chronic cough. Other long-term overexposure symptoms are characterized by weight loss, pneumonitis, and lung injury. Lead has also been listed as a suspected human carcinogen. This procedure outlines the steps needed to assure safe work with and around lead and lead-containing materials.

2.0 SCOPE

This procedure is for use during all operations and projects conducted by Secor where exposure to lead containing materials is anticipated.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section I, Part A, ***Predominant Potential Site Chemical Hazards***

4.0 DEFINITIONS

Action Level: Employee exposure without regard to the use of respirators to an airborne concentration of 30 micrograms of lead per cubic meter of air (ug/m^3) calculated as an 8-hour time weighted average (TWA).

Permissible Exposure Limit (PEL): The maximum allowable unprotected exposure to a substance as defined by the U.S. Occupational Safety and Health Administration (OSHA). For lead, the PEL is an airborne concentration of 50 micrograms of lead per cubic meter of air (ug/m^3) calculated as an 8-hour time weighted average (TWA).

Threshold Limit Value (TLV): The maximum allowable unprotected exposure to a substance as defined the American Conference of Governmental Hygienists (ACGIH). For lead, the TLV is an airborne concentration of 50 micrograms per cubic meter of air (u/m^3) as an 8-hour time weighted average (TWA).

Competent person: The Site Health and Safety Officer or similar designee, who is capable of

identifying existing and predictable lead hazards in the surroundings or work conditions, and who has the authorization to take prompt corrective measures to eliminate them.

5.0 RESPONSIBILITIES

5.1 Project Manager (or designee)

1. Identifies a project as having lead exposure potential.

2. Takes the lead in developing comprehensive compliance plan for working with lead as part of job documentation. If needed, contacts the Site Health and Safety Officer and/or the Corporate Health and Safety Manager to assist in the preparation of a written comprehensive compliance plan (which needs to be updated every six months). The plan should consist of at least the following elements, if applicable:

   - Results of bulk sampling of suspected lead-containing materials.
   - A detailed description of the project, including equipment, materials and controls to be used, crew size and job responsibilities, operating procedures, signs at the work area, and maintenance practices.
   - A description of the methods used to protect workers from exposure. This includes engineering plans and studies describing the engineering controls to be employed, if they are to be used, and alternatives studied.
   - A detailed implementation schedule, including copies of purchase requisitions and subcontracts, as appropriate.
   - Hazard communication practices amongst different contractors on the project, if needed.
   - Medical monitoring of exposed workers.
   - Exposure assessment and personal air monitoring and/or biological monitoring requirements.
   - Setting up a lead-regulated work area for the operations.
   - Respiratory protection and protective clothing.
   - Facilities for proper personal hygiene, including, if needed, clean storage of personal clothing, hand and face washing, or showers, as appropriate.

3. Instructs and monitors worker compliance with the plan. This includes informing employees of Appendix A & B of the lead regulation.

5.2 Site Health and Safety Officer and/or the Corporate Health and Safety Manager

1. Assists the Project Manager (or designee) in the preparation of a written comprehensive compliance plan (which needs to be updated every six months).

5.3 Secor Employees

1. Read and understand the comprehensive compliance plan.

2. Follow the requirements of the plan. Use controls as designed and as instructed in job documents and work packages. Use protective equipment as designed and as instructed. Perform work as instructed to reduce lead exposure potential.

3. Notify the Project Manager of any situation related to potential lead overexposure.

6.0 REFERENCES

- 29 CFR 1926.62, "Lead in Construction," *Code of Federal Regulations.*
- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response for the Construction Industry, " *Code of Federal Regulations.*

1.0 PURPOSE

This procedure explains what requirements and precautions are needed by Secor employees when working with mercury. Mercury is the cause a wide variety of health effects. Overexposure to mercury can cause irritation of the lungs, chest tightness, shortness of breath, pulmonary edema (fluid in the lungs), and fever. Other long-term overexposure symptoms are characterized by tremors, gum problems, changes in mood and personality, skin allergies, and possible reproductive problems. This procedure outlines the steps needed to assure safe work with and around mercury.

2.0 SCOPE

This procedure is for use during all operations and projects conducted by Secor where potential exposure to mercury is anticipated.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section I, Part A, ***Predominant Potential Site Chemical Hazards***

4.0 DEFINITIONS

Permissible Exposure Limit (PEL): The maximum allowable unprotected exposure to a substance as defined by the U.S. Occupational Safety and Health Administration (OSHA). For mercury, the PEL is a skin exposure concentration of 0.10 miligram of mercury per cubic meter of air (mg/m^3), not to be exceeded at any time.

Threshold Limit Value (TLV): The maximum allowable unprotected exposure to substances as defined by the American Industrial Hygiene Association (AIHA). For mercury, the TLV is an skin exposure concentration of 0.025 miligram of mercury per cubic meter of air (mg/m^3), averaged over an 8-hour workshift.

5.0 RESPONSIBILITIES

5.1 Project Manager (or designee)

1. Identifies a project as having mercury exposure potential.

2. Takes the mercury in developing comprehensive compliance plan for working with mercury as part of job documentation. If needed, contacts the Site Health and Safety Officer and/or the Corporate Health and Safety Manager to assist in the preparation of a written comprehensive compliance plan. The plan should consist of at least the following elements, if applicable:

- Results of bulk sampling for mercury.
- A description of the methods used to protect workers from exposure. This includes engineering plans and studies describing the engineering controls to be employed, if they are to be used, and alternatives studied.
- Exposure assessment and personal air monitoring and/or biological monitoring requirements, if needed.
- Setting up a mercury-regulated work areas and signage for the operations.
- Respiratory protection and protective clothing.
- Facilities for proper personal hygiene, including, if needed, clean storage of personal clothing, hand and face washing, or showers, as appropriate.

5.2 Site Health and Safety Officer and/or the Corporate Health and Safety Manager

1. Assists the Project Manager (or designee) in the preparation of a written comprehensive compliance plan (which needs to be updated every six months).

5.3 Secor Employees

1. Read and understand the comprehensive compliance plan.

2. Follow the requirements of the plan. Use controls as designed and as instructed in job documents and work packages. Use protective equipment as designed and as instructed. Perform work as instructed to reduce mercury exposure potential.

3. Notify the Project Manager of any situation related to potential mercury overexposure.

6.0 REFERENCES

- 29 CFR 1910.1000, "Airborne Contaminants," *Code of Federal Regulations.*
- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response for the Construction Industry, " *Code of Federal Regulations.*

1.0 PURPOSE

Hazardous worker safety training and other specialized safety training is required when performing operations at hazardous waste sites.

2.0 SCOPE

This Policy applies to all field and laboratory employees engaged in hazardous materials or waste cleanup activities.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part B, ***Minimum Training, Respirator Fit-Testing, and Medical Surveillance Requirements for Site Personnel***

4.0 RESPONSIBILITIES

4.1 Corporate Health and Safety

Corporate Health and Safety will specify the general training required by *SECOR* employees.

4.2 Principal-in-Charge

The Principal-in-Charge will assure all their employees have received specified training. The Principal-in-Charge will determine what asbestos training or registration may be required beyond the 3-day Asbestos Hazard Emergency Response Act (AHERA) class in asbestos inspection, for the extent of the work and the state in which the work resides.

4.3 Project Manager

Project Managers with the assistance of the Health and Safety Coordinators will verify that all employees assigned to their projects have up-to-date training.

4.4 Health & Safety Coordinators

Health & Safety Coordinators will schedule and maintain a current file of Hazardous Waste Operations, First Aid, Cardiopulmonary Resuscitation, asbestos inspection, and other training as designated by Corporate Health and Safety for their respective offices. They must send copies of all certificates of training to Corporate Health and Safety. The Health & Safety Coordinator will assure any 40-hour Hazardous Waste Operations instructors agree to and sign a copy of the *SECOR* Hazardous Waste Operations Training Vendor Requirement forms (see Appendix C-11). The Health & Safety Coordinator will maintain a file of these forms.

5.0 HAZARDOUS WASTE OPERATIONS TRAINING

Before engaging in fieldwork, *SECOR* employees will complete the following training:

- 40-hour Hazardous Waste Operations (Initial);
- 8-hour Hazardous Waste Operations Refresher (Annually).

Additionally, the following training is required by Secor employees engaged in field activities:

- Injury and illness prevention (Initial)
- Personal protective equipment (Initial)
- Emergency action plans ((Initial)
- Fire prevention (Initial and Annual)
- Hazard Communication (Initial)

Specialized training can include the following topics:

- Fire extinguishers (Initial and Annual)
- Lockout/Tagout (Initial)
- First Aid/CPR (Initial and Annual)
- Hearing protection if over 85 dBA (Initial and Annual)
- Respirators (Initial and Annual)
- Confined Space Training (Initial)
- Chemical Hygiene for Lab Personnel (Initial)
- Lead (As needed)
- Cadmium (As needed)
- Asbestos (As needed)

- Formaldehyde (As needed)
- Benzene (As needed)

A Secor employee serving in the capacity of Site Health and Safety Officer will also have 8-hour Hazardous Waste Operations Supervisor's training, and current certification in Basic First Aid and Cardiopulmonary Resuscitation.

5.0 REFERENCES

- 29 CFR 1926.65, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

To establish a written procedure for safely working around electrical utilities.

2.0 SCOPE

This procedure is to be followed by all Secor employees whenever they work around electrical utilities.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following components of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part G, *Excavation and Trenching*
- Attachment 4, *Utility Clearance Map*

4.0 OVERHEAD UTILITIES POLICY

a) Operation of a vehicle such as a drilling rig, crane, dump truck, power shovel, etc. will be conducted to be at least 20 feet from any overhead lines always. This includes the distance from the uppermost point of the vehicle to the overhead line (e.g., the height of a drill rig mast or raised bed of a dump truck).

b) For mobile drilling rigs only: near overhead electrical lines, the Principal-in-Charge on a case-by-case basis may approve a clearance of 10 feet in writing if the lines are 50,000 volts or less, and there is no way to drill at a greater distance.

c) When overhead lines are within or next to work areas, and they could conceivably come in contact with a vehicle as described in (1), signs will be placed beneath the overhead lines on 50 foot centers and at a height (minimum of 4 feet) and position that is visible from the driver's cab. These signs will be at least 10" X 14" with a red-white-black header with black legend and read, "DANGER: HIGH VOLTAGE."

d) If possible without disrupting routine traffic flow in the work area, orange or red flagging tape will also be used beneath power lines to connect utility poles (or cones/barricades) at a height of at least 4 feet from the ground.

e) If appropriate, place a warning sign (e.g., "Watch Overhead Lines") within the cab(s) of equipment working near power lines in a visible location, but one that does not interfere with the operator's line of sight.

f) Implement Occupational Safety and Health Administration utility clearance regulations if they are stricter than the above.

g) Record all known overhead utilities on the Utility Clearance Map and Utility Clearance Log of the Health and Safety Plan (to be signed by the Project Manager and *SECOR* Clearance Contact), and inform site personnel of such utilities and document on the Daily Health & Safety Briefing Logs (to be completed by the Site Health and Safety Officer).

5.0 UNDERGROUND UTILITIES POLICY

a) Contact "one-call" service at least 48 hours in advance (e.g., Underground Service Alert) and document an invoice/ticket number and expiration date.

b) Ensure the utility company at the site marks all utilities.

c) Interview the facility manager or other knowledgeable personnel. Review as-built, construction, or other drawings for the facility. Document other previously unidentified underground lines including pressurized lines containing propane, natural gas, etc. Mark on-site and depressurize (preferably by the client) as appropriate.

d) On private property, contract with a utility locating company that carries Errors & Omissions liability insurance.

e) If a company with insurance is not available, the Principal-in-Charge will either:

- Use *SECOR*-trained personnel with a radio-frequency cable/pipe locator and a passive metal detector to find and mark utilities, manhole covers, tank boundaries, etc., or
- Use an uninsured contractor who is considered the most competent.

In either case (a) or (b), obtain approval by the property owner/tenant that all locates have been completed.

f) Before drilling, manually pothole to a depth of 5 feet at the location of each boring or excavation. An air lance may be used instead of potholing. (Cutting through asphalt or concrete should be undertaken by a coring contractor unless the Principal-in-Charge authorizes and logs that *SECOR* field personnel will do the work.)
The Principal-in-Charge can authorize and log exceptions to manual potholing or lancing under the following conditions: (a) utilities for the site are confirmed to be deeper than 5 feet, (b) the ground is frozen beyond 4 inches, or © there exist extremely coarse granular soil or dense formations. In any case, drilling or excavation will be done as carefully as possible until they pass the zone of expected utilities. Snow on the ground is not by itself a reason to avoid manually potholing/lancing.

f) Complete the Utility Clearance Map and Utility Clearance Log of the Health and Safety Plan (to be signed by the Project Manager and *SECOR* Clearance Contact),

and inform site personnel of such utilities and document on Daily Health & Safety Briefing Logs (to be completed by the Site Health and Safety Officer).

6.0 REFERENCES

- 29 CFR 1926.650-52, "Excavations", *Code of Federal Regulations.*
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

To establish a written procedure for entry into and work within permit required confined spaces.

Poorly planned and executed entry into confined spaces has claimed many lives. Health hazards can occur from many conditions, which must be properly evaluated and protected against to ensure a safe job.

2.0 SCOPE

This procedure is to be followed by all *SECOR* employees whenever they enter a permit required confined space during the course of their work.

Note: *SECOR* will subcontract permit required confined space entry work whenever possible. Additionally, *SECOR* personnel will not be involved in confined space rescues. Contingencies for a rescue, as appropriate, must be included in the Health and Safety Plan. Where rescues may be difficult, for example with a vertical depth of greater than 5 feet, safety belts, body harnesses, lifelines, winches, etc. must be used.

3.0 *SECOR* FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of *SECOR's* site specific Safety and Health Plans (HASPs):

- Section II, Part F, ***Interior Work and Confined Space***

4.0 DEFINITIONS

Confined Space: A confined space is any space:

- Not intended for human occupancy and having a limited means of access/egress,
- Has poor natural ventilation and is subject to the accumulation of toxic or flammable contaminants,
- Has the opportunity for hazard by engulfment, or
- Has a potential oxygen deficient atmosphere.

Confined spaces include, but are not limited to, storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines and certain open top spaces such as pits, trenches, tubs, manholes, vaults and vessels.

Permit-Required Confined Space: A Permit-Required Confined Space may generally be defined as a space:

(1) Containing an atmosphere that exceeds or could exceed a Permissible Exposure Limit or Threshold Limit Value or Immediately Dangerous to Life or Health condition;
(2) Containing an atmosphere that exceeds or could exceed 10% of the Lower Explosive Limit;
(3) With a material or configuration that could engulf or trap an entrant; and/or
(4) Containing an atmosphere with less than 19.5% or greater than 23.5% oxygen.

Confined Space Entry Permit: A document to be completed whenever staff must enter and/or work in a confined space. Spaces shall be designated by the Project Manager. No *SECOR* personnel shall enter a space if there is any doubt of whether it should be designated as a confined space.

The Confined Space Entry Permit will be completed by the Site Health and Safety Officer and Project Manager ***before*** personnel will be permitted to enter the confined space. The Confined Space Entry Permit will be valid only for the performance of the work identified and for the location and time specified.

Confined Space Observer: An individual assigned to monitor the activities of personnel working within a confined space. The Confined Space Observer will monitor and provide external assistance to those inside the confined space when a Confined Space Entry Permit is required. The Confined Space Observer summons rescue personnel in case of an emergency and helps the rescue team.

5.0 GENERAL PROCEDURE FOR CONFINED SPACE ENTRY

- Evaluate the job to be done and identify the hazards before work in a confined space is scheduled. Prepare a Health and Safety Plan and show that confined space entry is (may be) necessary.
- Plan for equipment, personnel, and site-specific training as required before entry.
- Ensure that all process piping, mechanical and electrical equipment, etc., have been disconnected, purged, blanked-off or locked and tagged as necessary.
- If possible, ensure removal of any materials that may produce toxic or air displacing gases, vapors, or dust.

- Initiate a Confined Space Entry Permit if required.
- Ensure that any hot work (welding, burning, open flames or spark producing operation) to be done in the confined space is shown on a Confined Space Entry Permit. *REMEMBER:* processes such as welding can create hazardous atmospheres in confined spaces.
- Ensure that the space is adequately ventilated before starting work and for the duration of time that the work is to be done in the space. *REMEMBER:* if air is exhausted from a confined space it should be replaced with supply ventilation via a fan (for example) to ensure adequate oxygen concentration in the confined space.
- Ensure that the personnel who enter the confined space and the Confined Space Observer are familiar with the content and requirements of this instruction, and the Health and Safety Plan.
- Ensure atmospheric testing is conducted in the confined space before *AND DURING* employee entry and before validation/revalidation of a Confined Space Entry Permit is completed to ensure the following:

  ✓ Oxygen content between 19.5% - 23.0%;
  ✓ Combustible gas/vapor monitoring will be done throughout the confined space. Combustible gas readings must be < 10% of the Lower Explosive Limit; and
  ✓ Contaminant air monitoring will be done as specified in the Health and Safety Plan/Confined Space Entry Permit.

  If these conditions cannot be met or maintained, the appropriate level of protection as specified in the Health and Safety Plan must be used. Continuous monitoring equipment for oxygen content, combustible gases, toxic vapors, etc. may need to be carried into the confined space with the entry team.

- Designate whether hot or cold work will be allowed. If all monitoring tests as required by the Confined Space Entry Permit are satisfactory, then complete the Confined Space Entry Permit, listing any safety precautions, protective equipment or other requirements.
- A Confined Space Entry Permit must be posted at the work site. A copy will be attached to the Health and Safety Plan and maintained in both the project and local health and safety file.

6.0 CONFINED SPACE OBSERVER (Permit-required confined space entry)

- While personnel are inside the confined space, a Confined Space Observer will monitor the activities and provide external assistance to those in the space. Confined Space Observers will have no other duties that may take their attention away from the work or

require them to leave their post at the confined space anytime while personnel are in the space.

- The Confined Space Observer will maintain some form of contact with all personnel in the confined space; visual contact is preferred, along with 2-way radios or other means of communication.
- The Confined Space Observer will be instructed by his or her supervisor in the method for contacting rescue personnel in case of an emergency.
- If the Confined Space Observer detects irregularities within the space, they will order that personnel exit.
- In case of an emergency, the Confined Space Observer must NEVER enter the confined space.

7.0 OTHER PROVISIONS

- Confined spaces should generally be identified with a posted sign that reads: **"CAUTION (DANGER)-CONFINED SPACE."**
- Ventilation will be provided for the confined space before initial entry and for the duration of the Confined Space Entry Permit. Positive/forced mechanical ventilation is usually required. Care should be taken not to spread contamination outside the enclosed area.
- If flammable liquids, gases, or vapors may be contained within the confined space, explosion-proof equipment will be used and continuous hazard monitoring performed. All equipment will be positively grounded.
- The contents of any confined space will, where necessary, be removed before entry. All sources of ignition must be removed before entry. All pumping equipment will be adequately bonded and grounded.
- Electrical feed lines to confined spaces will be broken and blanked-out. Sources of electrical or mechanical energy that could activate any area of the confined space must be identified and will be tagged and locked out before anyone enters a confined space. The lockout-tagout procedures must be documented in the Confined Space Entry Permit (if required).
- Hand tools used in confined spaces will be in good repair, explosion-proof and spark-proof as necessary, and selected according to intended use. Whenever possible, pneumatic power tools are to be used.
- Hand-held lights and other illumination used in confined spaces will be equipped with guards to prevent contact with the bulb, and must be explosion-proof as necessary.
- Compressed gas cylinders, except cylinders used for self-contained breathing apparatus, will not be taken into confined spaces. Gas hoses will be removed from the space, and the supply turned off at the cylinder valve when personnel exit from the confined space.

- A ladder may be required in confined spaces deeper than the employee's shoulders. The ladder will be secured and not removed until all employees have exited the space.
- Only pressure-demand self-contained breathing apparatus or a pressure-demand air-line respirator equipped with a 5-minute emergency air supply (egress bottle) will be used in any confined space with conditions suspected or determined to be Immediately Dangerous to Life or Health.
- Where air-moving equipment is used to provide ventilation, chemicals will be removed from the vicinity to prevent introduction into the confined space.
- Vehicles will not be left running near confined space work or near air-moving equipment being used for confined space ventilation to make sure that engine exhaust is not introduced into the confined space.
- Smoking in or directly around confined spaces is prohibited.
- Completed confined space permits should be forwarded to the Director of Industrial Hygiene and Safety, who is required to do an annual audit of the permit required confined space program.

8.0 TRAINING

SECOR employees will receive confined space training covering the requirements listed above during their 40-Hour Hazardous Worker Training.

9.0 RESPONSIBILITIES

9.1 Director of Industrial Hygiene and Safety (or suitable designee)

1. Issues policies and procedures designed to protect employees from exposure to the hazards of confined spaces.

2. Provides guidance to Project Managers and other employees on minimizing confined space hazards.

3. Coordinates with the SECOR Human Resources Department on the technical aspects of the development of the training and recordkeeping portions of this program.

4. Will consider comments received on the implementation of this policy on an annual or as needed basis to keep this program up to date and usable by employees.

5. Assists in the development of educational materials and plans as necessary.

9.2 Vice President Human Resources (or designee)

1. With technical input from the Director of Industrial Hygiene and Safety, establishes the training program designed to instruct employees engaged in confined space work.

2. Maintains the records associated with medical surveillance and training.

9.3 Principals-In-Charge

1. Ensures that employees in his/her office who may potentially work in/near confined spaces are provided with proper training to identify, assess and plan for work in confined spaces.

9.4 *SECOR* Staff

1. Take the hazards of confined spaces seriously.

2. Review this policy carefully and ask questions if necessary.

3. Do not enter confined spaces without approval of a Project Manager.

4. Ensure that training in confined space entry is obtained before working on projects dealing with confined spaces.

10.0 REFERENCES

- 29 CFR 1910.146, "Permit –required Confined Spaces".
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

CONFINED SPACE ENTRY PERMIT
(POST OUTSIDE SPACE)
TO BE COMPLETED BY PROJECT MANAGER

DATE:_____

PROJECT NAME:_____ PROJECT NO:_____

LOCATION OF PROJECT:_____

LOCATION OF CONFINED SPACE WITHIN SITE/FACILITY:_____

_____

HAZARDS IN THIS CONFINED SPACE:_____

_____

DESCRIPTION OF WORK:_____

HAZARDS CREATED BY WORK TO BE DONE:_____

OBSERVER:_____ ENTRY LEADER:_____

EMPLOYEES ASSIGNED:_____

ENTRY DATE:_____ ENTRY TIME:_____ EXIT TIME:_____

OUTSIDE CONTRACTORS WORKING IN AREA:_____

Have all employees who will enter this space or act as standby received the following approvals and training:
(CIRCLE ONE)

Yes No a. Medical clearance within the past two years.
Yes No b. Training in confined space entry.
Yes No c. Job emergency procedures have been reviewed with all employees involved.
Yes No d. Completed rescue drill for this type confined space.

Equipment identified by checks (√) in boxes will be available at entrance for emergencies.
Equipment identified by (X) in boxes will be used by personnel in space.

1. 30-min SCBA
2. 15-min SCBA
3. Other Respirator _____
4. 2-way Radios
5. Tether - Life lines
6. Harness - Safety belt
7. Wristlets
8. Fall device for tether
9. Rolling body board (creeper)
10. Ladder
11. Ladder extensions
12. Barricades for all openings
13. Tripod or other lifting device
14. Opening device for covers
15. Device to lock covers open
16. Fresh air blower and hose
17. LEL-0_2 monitor-alarm
18. Toxic gas colorimetric tubes
19. Toxic gas air monitor
20. Hard hats
21. Safety shoes
22. Safety glasses
23. Full face shields
24. Chemical protective arm covers
25. Full chemical protective suit
26. Chemical protective gloves
27. Chemical protective boots
28. Emergency lights/Flashlights
29. Fire extinguisher
30. Pre-entry H&S Briefing
31. Stand-by employee(s)

CONFINED SPACE ENTRY PERMIT
(POST OUTSIDE SPACE)

Date: Project Name: Project No.:

1. All lines that could discharge contaminants into the space have been/will be blanked off or line disconnected and pumping means locked out and tagged.
   Yes No N/A

2. Space has been/will be cleaned of any toxic residue or atmosphere by _____.
   Yes No N/A

3. Moving machinery has been/will be locked out and immobilized.
   Yes No N/A

4. Entry and exit to the space are provided by _____.
   Yes No N/A

5. Will work to be done in the space introduce contaminants to the space?
   Yes No N/A

6. What is capacity of blowers to be used in cubic feet per minute? _____.

7. Have all affected departments been notified of service interruption?
   Yes No N/A

8. Atmospheric gas tests will be done by _____.

   Readings:
   Oxygen _____ Flammability % _____ Toxic Gas _____.
   (Not <19.5% or >22%) (LEL <10%) (<_____ppm)

9. Will continuous monitoring device be used? Yes No Type_____.

10. Calibration date of meters used in items 10 and 11.
    a. _____ b. _____ c._____

11. Emergency communication means: 2-Way Telephone Other

I have inspected the space to enter, the safety equipment that will be used, and approve employees' entry into the confined space.

Signed: _____
Project Manager

_____
Site Health and Safety Officer

1.0 PURPOSE

To establish a written procedure for field work involving temperature extremes.

2.0 SCOPE

This procedure is to be followed by all Secor employees whenever they perform fieldwork that may be subject to temperature extremes.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section V, Part E, ***Heat and Cold Stress***

4.0 RESPONSIBILITIES

4.1 Project Manager

The Project Manager has overall responsibility for establishing and assuring compliance with this procedure.

4.2 Site Safety Officer

The Site Health and Safety Officer will monitor weather broadcasts before the start of outdoor work each day, and more frequently as necessary. No work will be done outdoors in inclement weather (rain, snow, sleet, etc.), or in remote or isolated areas without prior authorization from Corporate Health and Safety. Project specific protocols may be necessary.

5.0 HEAT STRESS PROCEDURES

- For temperatures above 75°F, each person will take their pulse at rest. At breaks, the pulse should be less than 110 beats per minute after one minute. Before returning to work, the pulse should be no more than 10 beats greater than the resting pulse.
- If the air temperature is greater than 95°F, work should be done for 30 minutes with a rest break of 10 minutes for Level D. For Level C, work should be done for 20 minutes with a rest break of 10 minutes.
- At least 8 ounces (1 cup) of cool water, Gatorade-type drink, or dilute fruit juice should be consumed at each rest break or at least one cup every 20 minutes.
- Work should stop if any of the following symptoms occur: muscle spasm and/or pain in the limbs or abdomen (heat cramps); a weak pulse, heavy

sweating, dizziness, and/or fatigue (heat exhaustion); or a rapid pulse, no sweating, nausea, dizziness, and/or confusion (heat stroke). Provide First Aid immediately.

- Use sunscreen on unprotected skin to protect against ultraviolet exposure.
- Corporate Health and Safety may require project-specific air or personal monitoring using heat stress instrumentation.

6.0 COLD STRESS PROCEDURES

Hypothermia

A majority of cold-related worker fatalities have resulted from failure to escape low environmental air temperatures, or from immersion in low temperature water. The single most important aspect of life-threatening hypothermia is a sharp decrease in the body's deep core temperature.

Hypothermia occurs when the body loses heat faster than it can be produced. The body's "normal" deep body temperature is 99.6° Fahrenheit. If the body's temperature drops to 95° Fahrenheit, uncontrollable shivers will occur. If cooling continues, several other symptoms may occur. Such symptoms may include:

- Vague, slow, slurred speech
- Forgetfulness, memory lapses
- Loss of dexterity, inability to use hands
- Numbness in the extremities
- Frequent stumbling
- Drowsiness
- Exhaustion, collapse
- Unconsciousness
- Death

Caution must be taken in any low temperature environment. Hypothermia can occur at temperatures above freezing. Cold, wet, windy conditions are primary causative agents to hypothermia and make prime hypothermia weather. However, evening and morning temperatures in desert environments can also be a concern for hypothermia.

Hypothermia impairs judgment, causing an inability to make sound decisions on and of the job. Such impairment can increase your risk to other hazards.

Frostbite

Frostbite is the freezing of body tissue. Fingers, toes, and even whole arms and legs can be lost as a result of frostbite. Pain in the hands and feet is felt only

when temperature of the tissue is changing very rapidly. It must be recognized that there may be no pain with gradual freezing. This makes frostbite extremely dangerous. The initial onset of frostbite must be treated immediately to prevent any further tissue damage.

Loss of the sensations of touch, pressure, and pain may occur without awareness of any numbness or other sensation. Therefore, it is important to test these sensations often and to wear clothing that is loose and does not restrict the flow of the blood to the limbs.

All exposed parts of the body should be inspected routinely by a partner. It is very important to recognize symptoms of exposure. Before freezing, the skin - especially the face with its many blood vessels - becomes bright red. As more exposure occurs, small patches of white appear. This indicates that freezing of the tissue/skin is occurring. With exposure, the skin also becomes less elastic. This is best noted in the finger pads, which remain pitted when touched or squeezed. Any further exposure will result in frostbite.

Serious freezing is most common in the feet, as opposed to other parts of this body because there is less awareness of them, because of poor circulation, poor sensation, and because of inadequate footgear. Hands are next in order of serious injury. Exposed head parts are less likely to become frostbitten than feet because they are conditioned to exposure and have a better blood supply.

Next to the extent of freezing, inadequate or improper treatment of a frozen part is the most common cause of serious loss of tissue. If you suspect you or a co-worker has experienced frostbite, seek medical attention immediately. Immediate response for cold related illnesses can be found in the American Red Cross First Aid Handbook distribute d during First Aid/ CPR refresher classes. It is recommended that a copy of this document be immediately available at all SECOR job sites.

Cold Stress procedures involve the following actions:

- Employees shall be provided with warm clothing, such as gloves, mittens, heavy socks, etc., when the air temperature is below 40-45° Fahrenheit (F). If appropriate, chemical protective clothing may be used to protect the employee from the cold.
- When the air temperature is below 30-40°F (depending upon employee comfort), clothing for warmth, in addition to chemical protective clothing, shall be provided. This will include insulated suits, such as whole-body thermal underwear; wool socks or polypropylene socks to keep moisture off the feet if there is a potential of work activity which would cause sweating; insulated gloves (when air temperatures are extremely low [less than 5-10°F, gloves with reflective surfaces, which reflect body heat back

to the hand, should be used]; boots; and insulated head cover, such ask nit caps). Remember, heat loss primarily occurs through the head and other exposed body parts. As a rule, a wool cap or similar type of insulating garment should be worn on the head as a preventative measure.

At air temperature below 35°F, the following work practices must be followed:

- If the clothing of an employee might become wet on a job site, the outer layer of the clothing must be impermeable to water. In severe weather conditions and/or cold and wet conditions, it is recommended that material that is highly impermeable to moisture be such as Gortex.
- If an employee's underclothing (gloves, socks, coveralls, mittens, etc.) becomes wet in any way, the employee must change into dry clothing immediately. If the clothing becomes wet from sweating, the employee may finish the project that caused the sweating before changing into dry clothing.
- Employees must be provided a warm area (65°F or above) to change from work clothing into street clothing.
- Employees must be provided a warm break area (60°F or above). The frequency of breaks should be established for all temperature regimens: 40-45°F, 30-40°F, etc.
- If appropriate, space heaters may be provided in the work area to warm the hands, feet, etc. When using heaters all necessary fire and electrical safety practices shall be followed. Space heaters shall be shut off when a work area is not occupied.
- Hot liquids, such as soups, warm sweet drinks, etc. shall be provided in the break area. The intake of caffeinated beverages shall be limited because of the attendant diuretic and circulatory effects.
- The buddy system shall be practiced at all times. Any employee observed with severe shivering shall leave the cold area immediately.
- Employees should layer their clothing, i.e., wear thinner, lighter clothing next to the body with heavier clothing layered outside the inner clothing. This will reduce sweating (which may lead to evaporative cooling) and provide for better warmth.
- Avoid overdressing when going into warm areas or when performing activities, which are strenuous. This could lead to heat stress.
- Auxiliary heated versions of handwear, footwear, etc., can be used in lieu of gloves, mittens, insulated socks, etc. if extremely cold conditions exist, and if compatible with hazards in the work area.
- Employees handling evaporative liquids (gasoline, hexane, toluene, alcohol, etc.) shall take special precautions to avoid soaking of clothing or gloves with the liquids because of the added danger of cold injury due to evaporative cooling.

- Work shall be arranged in such a way that sitting still or standing for long periods is minimized.

- All employees who may work in cold areas shall be trained in the following subject areas and in accordance with this procedure:

  - Proper first aid treatment
  - Proper clothing practices
  - Proper eating and drinking habits
  - Recognition of impending adverse health effects
  - Safe work practices
  - Recognition of hypothermia signs and symptoms
  - Emergency response and means to summon emergency medical assistance

- Clothing used for warmth, which is worn under chemical protective clothing, can be laundered in normal fashion, without the wash water being collected as contaminated so long as the chemical protective clothing remains free from rips, tears, punctures or chemical breakthrough.
- If there is a rip, a tear, or chemical breakthrough to the chemical protective clothing, while working in a contaminated area, the clothing used for warmth must be handled as potentially contaminated. Additionally the water in which the clothing was washed must also be collected as potentially contaminated water. More rigorous steps may be required if the materials handled are extremely toxic (dioxin, lead, asbestos, PCBs etc.).

7.0 REFERENCES

- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

The following procedures apply when *SECOR* has responsibility for directing or conducting excavation, and/or when non-*SECOR* personnel at a project site are following *SECOR's* Health and Safety Plan. (Also refer to Standard Safety Procedure 1: Utility Clearance.)

2.0 SCOPE

This procedure is for use during all operations and projects conducted by Secor where potential exposure to underground hazards and cave ins are anticipated.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section IIV, Part G, ***Excavation and Trenching***

4.0 GENERAL EXCAVATION AND TRENCHING PROCEDURES

- Prior to opening an excavation, a determination will be made to the extent possible whether underground installations and danger of accidental contact or disturbance is possible, and appropriate means before proceeding will determine the exact location. When it is uncovered, adequate protection will be provided for the existing installation.
- All known owners of underground utilities in the area involved will be advised of proposed work at least 48 consecutive hours (excluding Saturdays, Sundays, and holidays) before the start of excavation work.
- A reasonable examination by a Competent Person (assigned by the Principal-in-Charge) will be made to decide that no recognizable conditions exist which would expose employees to injury before work is permitted in or next to excavations. The Competent Person will be under the technical direction of a *SECOR* registered civil engineer for the specific project as designated by the Principal-in-Charge. All shoring, bracing, shielding and similar systems will be designed and/or approved in writing by a registered civil engineer.

- The Occupational Safety and Health Administration defines a Competent Person as possessing these qualifications:
  - Knowledge of the Occupational Safety and Health Administration excavation regulations;
  - Knowledge of Occupational Safety and Health Administration soils classifications and tests;
  - Knowledge of selection and use of protection systems (e.g., shoring, sloping and shielding); and
  - Possessing the authority to stop work on a job site if any safety violations occur.

The following guidelines should be followed regarding excavation and trenching:

- Excavations will be inspected daily and logged in the Health and Safety Plan by a Competent Person before they permit employees to enter the excavation. Inspection will also occur after any event that could undermine the methods of slope protection. These events include rain, groundwater flow, earthquake, visible signs of slope instability or disturbance of shoring or other protection systems.
- Employees who enter excavations 5 feet or more in depth will be protected by a system of shoring, sloping of the ground, benching, or other alternate means. Protection for employees who work in excavations less than 5 feet in depth will also be provided when examination by a Competent Person shows that they may expect hazardous ground movement.
- Excavated material will be prevented from falling back into the area where employees are working. This will be done by locating the spoils at a distance from the edge of the excavation consistent with the character of the material and the nature of the operations, but unless otherwise contained, in no case will the excavated materials be placed closer than 2 feet from the edge of excavations 5 feet or more in depth.
- Work in an excavation will always be under the immediate supervision of a Competent Person or registered civil engineer who is authorized to modify the shoring or sloping.
- A convenient and safe means of access will be provided for employees to enter and leave an excavated area. This will consist of a stairway, ladder or ramp securely fastened in place where employees are working.
- When employees are in trenches 4 feet or more in depth, a safe means of access will be provided and located to require no more than 25 feet of lateral travel.

- In locations where oxygen deficiency, explosive conditions or toxic air contaminants are possible, air in the excavation will be tested according to the Health and Safety Plan. A Confined Space Entry Procedure and Permit may be required.
- Trenches will be crossed only where safe crossings have been provided.
- When walkways or bridges are provided across excavated areas, they will be provided with standard guardrails and toeboards when the depth of excavation exceeds 6 feet.
- Hard hats will be worn where there is overhead work or walkways.
- An employee working near operational excavating equipment will be required to work in a safe position such that the employee is not in danger of falling into or otherwise contacting the machine's moving parts.
- No excavation work will take place below the level of the base of an adjacent foundation, retaining wall or other structure until it has been determined by a Competent Person that such excavation will in no way create a hazard to workers or until they have taken adequate safety measures for the protection of workers.
- Undermined sidewalks and/or pavement will be supported to safely carry all anticipated loads.
- If the stability of adjoining buildings or walls is endangered by excavations, shoring, bracing, underpinning, or another method affording equivalent protection for workers will be provided as necessary to ensure their safety. All such systems will be inspected daily or more often, as conditions warrant, by a Competent Person and the protection effectively maintained.
- No existing wall or other structure will be made by reason of an excavation or backfill to function as a retaining wall until it has been determined that such a wall will safely withstand all expected loads that otherwise might be a source of a hazard to workers.
- Wherever a permanent retaining wall, instead of the temporary shoring system is constructed to hold any part of an excavation that might endanger workers, such walls will be designed and constructed to effectively resist all existing and expected loads.
- Adequate physical barrier protection and/or warning systems (e.g., barricades, caution tape, flexible fencing, plywood fencing) will be provided to prevent employees or equipment from falling into excavations.
- All wells, pits, shafts, caissons, etc., will be barricaded or securely covered during breaks and at the end of the day.
- Upon completion of exploration and similar operations, temporary wells, pits, shafts, etc., will be backfilled.

- Diversion ditches, dikes, or other effective means will be used to prevent surface water from entering an excavation and to provide adequate drainage of the area next to the excavation.
- Accumulations of water in excavations that endanger the stability of those excavations or pose a hazard to employees will be controlled before work progresses.
- Special considerations will be made for excavations next to structures or improvements, or subject to vibration or ground water.
- Special safety provisions consisting of additional bracing or other effective means will be taken at excavations next to streets, railroads, or sources of external vibrations or superimposed loads. Similar provision will be taken in excavations made in areas that have been previously filled.
- All materials of a shoring system will be free from defects and damage that might in any way impair their protective function.
- Provisions will be made to prevent injury to employees engaged in the installation of shoring for trenches and other excavations. In trench work this may be done by providing and requiring the use of devices that will allow upper cross braces to be placed from the ground surface before employees work in the trench at those points. In deep trenches requiring additional braces, workers will then progress downward, protected by cross braces that have already been set firmly in place. The reverse procedure will be followed when removing shoring.
- No part of the shoring system of any excavation will be removed until effective means have been taken to avoid hazards to employees from moving ground.
- If a newly installed masonry or concrete wall is to be depended upon for protection against moving ground, it will have attained adequate strength to sustain resulting pressures before employees are permitted to enter the excavation.
- Instead of a shoring system, the sides or walls of an excavation or trench may be sloped, provided they afford equivalent protection. Where sloping is a substitute for shoring that would otherwise be needed, the slope will be ¾ horizontal to 1 vertical unless the instability of the soil requires a slope flatter than ¾ to 1.
- In hard, compact soil where the depth of the excavation or trench is 8 feet or less, a vertical cut of 3½ feet with sloping of ¾ horizontal to 1 vertical is permitted.
- In hard, compact soil where depth of the excavation or trench is 12 feet or less, a vertical cut of 3½ feet with sloping of 1 horizontal to 1 vertical is permitted.
- All hydraulic shoring systems will be installed, tested and maintained according to the manufacturers' recommendations and/or good engineering practice.
- Benching in hard, compact soil, is permitted if a slope ratio of ¾ horizontal to 1 vertical, or flatter, is used.

- Excavations of 20 feet in depth must first be evaluated and approved in writing for entry by a *SECOR* registered civil engineer.

5.0 EXCAVATION SAFETY--CALIFORNIA

The following procedures apply when *SECOR* has responsibility for directing or conducting excavation, and/or when *non-SECOR* personnel at a project site are following *SECOR*'s Health and Safety Plan.

1) Follow Standard Safety Procedure 1: Utility Clearance.
2) For excavations 5 feet in depth and requiring entry, observe the following.
   a) Submit a copy of an "Activity Notification Form for Holders of Annual Permits" by fax to the Cal-OSHA District Office nearest the proposed excavation at least 24 hours before the commencement of work at each site. A copy of the Form and the fax verification will be attached to the Health and Safety Plan and made available at the site. A "Competent Person" will be identified on the Form as approved by the Principal-in-Charge or satellite office Principal.
   b) A copy of *SECOR*'s Cal-OSHA Annual Permit for Trenches and Excavation will also be attached to the Health and Safety Plan.
   c) If there is an excavation subcontractor, this subcontractor should also have their own Cal-OSHA Annual Permit for Trenches and Excavation available at the site.
   d) The Principal-in-Charge will assign a *SECOR* registered civil engineer to the project. The registered civil engineer will provide technical direction to the Competent Person as necessary. Any planned entrance into the excavation must be reviewed and approved in writing by the registered civil engineer for protection systems including sloping, benching, shoring, and shielding. Any unplanned entrance at the time of site activity must also be pre-approved in writing by the registered civil engineer. Such entrances include mounting storage tanks for inspection and/or preparation before removal.
   e) Excavations must be sloped 1.5 to 1, unless soil analysis (not equivalent to chemical analysis) is performed and analyzed by the registered civil engineer, and written approval is provided.
3) The Competent Person will make documented inspections before beginning work each day of excavations, adjacent areas, and protective systems for evidence of any situation that could result in cave-in, protective system failure, hazardous atmospheres, or other hazardous conditions. They will also make more frequent

inspections as needed, including after every rainstorm or other incident that could affect worker safety. If safety could be affected, they will remove employees from the hazardous area until they have made necessary precautions. If evidence of possible cave-ins or slides is apparent, work will cease until the registered civil engineer has approved necessary protection systems.

4) Excavations of 20 feet in depth must first be evaluated and approved in writing for entry by the registered civil engineer.

5) An adequate protective system will protect any excavation requiring entry from cave-ins except:
   a) When the excavation is made entirely in stable rock, or
   b) The excavation is < 5 feet in depth and examination by the Competent Person shows there is no potential for cave-in.

6.0 REFERENCES

- 29 CFR 1926.650-52, "Excavations", *Code of Federal Regulations.*
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

To establish a written procedure for safely working around and with construction vehicles.

2.0 SCOPE

This procedure is to be followed by all Secor employees whenever they work around or with construction vehicles.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following components of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part G, ***Excavation and Trenching***
- Section V, Part G, ***General Procedures***

4.0 GENERAL PROCEDURES

- "Construction vehicles" include backhoes, trackhoes, power shovels, dump trucks, loaders, etc. Such equipment will be leased, not owned by *SECOR*.
- Before any mechanized equipment is placed in use, it will be inspected and tested by a competent mechanic and certified to be in safe operating condition by the leasing agency and verified by the Project Manager.
- Only trained and experienced operators as determined by the Vice-president of Construction Services, Chief Engineer, or their designees will be allowed to operate heavy equipment. Each operator will be responsible for the inspection of their equipment daily and during use to make sure it is in safe operating condition. They will make tests before work each day to determine that the brakes and operating systems are in proper working condition. Equipment deficiencies observed at any time that affect their safe operation will be corrected before continuing operation. They will not operate equipment in a manner that will endanger persons or property, nor will the safe operating speeds or loads be exceeded.
- Seat belts will always be worn while vehicles are in operation.
- Any equipment found to be unsafe will be deadlined and its use prohibited until unsafe conditions have been corrected.

- Inspections or determinations of road conditions and structures will be made in advance to assure that clearances and load capacities are safe for the passing or placing of any machinery or equipment.
- Getting off or on any equipment while it is in motion is prohibited.
- Machinery or equipment requiring an operator will not be permitted to run unattended.
- When necessary, all mobile equipment and the operating area will be adequately illuminated while work is in progress.
- All equipment with windshields will be equipped with powered wipers. Vehicles that operate under conditions that cause fogging or frosting of windshields will be equipped with operable defogging or defrosting devices.
- All equipment left unattended at night, next to a highway in normal use or next to construction areas where work is in progress will have lights or reflectors, or barricades equipped with lights or reflectors to identify the location of the equipment.
- Whenever the equipment is parked, the parking brake will be set. Equipment parked on inclines will have the wheels chocked or track mechanisms blocked and the parking brake set.
- Steering or spinner knobs will not be attached to the steering wheel unless the steering mechanism prevents road reactions from causing the steering handwheel to spin. When permitted, the steering knob will be mounted within the periphery of the wheel.
- Ground personnel will receive a visual "OK" from the operator before approaching heavy equipment in operation.
- Truck operators will stay in the cab or at least 30 feet from the truck while it is being loaded with material.
- "Tag-Lines" will be used when manipulation of suspended materials is required.
- Ground personnel working around suspended material will be at a distance of not less than the altitude of the material, or the length or width of the material, whichever is greater.
- When material is in the process of being horizontally towed, ground personnel will be at a distance of not less than the length of the line/chain.
- Personnel will wear high-visibility reflective vests when working near heavy equipment.
- Bulldozer blades, backhoe buckets, dump bodies, and similar equipment will be either fully lowered or blocked when being repaired or when not in use.
- The controls of loaders, excavators or similar equipment with folding booms or lift arms will not be operated from a ground position unless so designed.
- Personnel will not work or pass under the buckets or booms of equipment in operation.
- Any piece of equipment used for lifting materials or personnel will be used and maintained in strict accordance with manufacturer's directions and applicable regulations.
- Load limits will be visibly posted on all lifting devices.

5.0 MAINTENANCE AND REPAIR

- Preventive maintenance procedures recommended by the manufacturer will be followed by the leasing company and verified by the Project Manager.
- A competent mechanic or other person will make any field repairs or maintenance as determined by the Vice-president of Construction Services, Chief Engineer, or their designees at a location that will provide protection from traffic and other site activities. Bulldozer blades, backhoe buckets, dump bodies and similar equipment will be either fully lowered or blocked when being repaired or when not in use. All controls will be in a neutral position, with the engine stopped and brakes set, unless work being done on the machine requires otherwise.
- All points requiring lubrication during operation will have fittings positioned or guarded to be accessible without hazardous exposure.
- Vehicles will be shut down before and during fueling operations. Closed systems, with automatic shutoff that will prevent spillage if connections are broken, may be used to fuel diesel powered equipment left running.
- All towing devices used on any combinations of equipment will be structurally adequate for the weight drawn and securely mounted. Persons will not be permitted to get between a towed and towing piece of equipment until they have stopped both pieces of equipment.

6.0 REFERENCES

- 29 CFR 1926.650-52, "Excavations", *Code of Federal Regulations.*
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

To establish a written procedure for safely working hand and power tools.

2.0 SCOPE

This procedure is to be followed by all Secor employees whenever they work with hand or power tools.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following components of Secor's site specific Safety and Health Plans (HASPs):

- Section V, Part G, ***General Procedures***

4.0 GENERAL HAND AND POWER TOOL PROCEDURES

- Work with other than the simplest hand tools will be done only by those persons competent because of training or experience as approved by the Principal-in-Charge, the Chief Engineer, or their designees. They should visually inspect all tools before use.
- All hand and power tools will be kept in good repair and used only for the purposes for which they were designed. Wrenches with sprung jaws, impact tools with mushroomed heads, and wooden handled tools with cracks or splinters are examples of unsafe hand tools. Tools having defects that will impair their strength or render them unsafe will be tagged or made inoperable and removed from service.
- Guards must be in place during operation on all power tools designed to fit them. Safety devices must remain in place on power tools unless removed according to manufacturer's instructions for repair or maintenance and must be replaced before use. Belts, gears, shafts, drums, flywheels, chains or other rotating, reciprocating or moving parts exposed to employee contact or representing other hazards must be guarded. Repair or maintenance will be done by qualified personnel as designated by the manufacturer.
- Proper personal protective equipment must be used (e.g., leather gloves, safety boots and glasses, and hearing protection) when operating power tools or hand tools that may produce projectiles, cuts or abrasion, dust, fumes, or mists, or which pose a risk of harm to arms, legs, or feet if dropped. Contact Corporate Health and Safety for specific recommendations.

- Throwing tools or materials from one location to another, from one person to another, or dropping them to lower levels is not permitted.
- Only non-sparking tools will be used in locations where sources of ignition may cause a fire or explosion.
- Power tools will be inspected, tested and determined to be safe for operation before use. Periodic inspections or maintenance will be done according to manufacturer instructions.
- Electric power tools must always be used with ground fault circuit interrupters.
- Rotating or reciprocating portable power tools will have a constant pressure switch that will shut off the power when the operator releases the tool. A portable power tool may have a lock-on control provided turnoff can be accomplished by a single motion of the same finger or fingers that turned it on.
- Hydraulic fluid used in power tools must retain its operating characteristics at the most extreme temperatures to which it will be exposed.
- Manufacturer's safe operating pressures for hydraulic hoses, valves, pipes, filters, and other fittings will not be exceeded.
- All hydraulic or pneumatic tools used on or around energized lines or equipment will have nonconducting hoses having adequate strength for normal operating pressures.
- Loose or frayed clothing, loose long hair, finger rings, necklaces, chains, watches, bracelets, or hanging earrings will not be worn when using power tools, working around machinery, or on any site where chemical contamination is possible or has been identified.
- Air lines or hoses will not be used to clean tools or "blow-down" personnel.
- Also see Standard Safety Procedure 7: Electrical Safety, and Standard Safety Procedure 8: Lockout-Tagout.

5.0 REFERENCES

- 29 CFR 1926.300-305, "Hand Tools", *Code of Federal Regulations.*
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

This procedure explains what requirements and precautions are needed for an awareness level of understanding by *SECOR* employees when working with electrical equipment and systems.

2.0 SCOPE

This procedure is for use during all operations and projects conducted by *SECOR* where exposure to electrical hazards is anticipated. *SECOR* employees will only require training to the level of "unqualified persons" (per the requirements of the National Electrical Code (NEC)). Any electrical work requiring a "qualified persons" level of training will be subcontracted out to a properly qualified contractor.

3.0 *SECOR* FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of *SECOR's* site specific Safety and Health Plans (HASPs):

- Section II, Part G, ***Excavation and Trenching***
- Section IV, Part E, ***Potential Non-Chemical Hazards***
- Section IV, Part F, ***Task Specific Hazards***

4.0 GENERAL PROCEDURES

Electrical safety procedures apply to use of electrical tools, extension cords, and work around electric utilities. The Project Manager will assure they include electrical system specifications in their Health and Safety Plans as appropriate. (Also see Standard Safety Procedures 1: Utility Clearance, 8: Lockout-Tagout, and 11: Drilling Safety.)

- Work areas will be inspected for overhead lines and enclosures carrying electrical energy sources. Sources will be identified and work areas provided with shielding and/or barricades, or the work areas will be located at a minimum of 20 feet from the sources to prevent accidental contact or arcing to personnel or equipment. If shielding is required on electrical utility lines, then the local power utility will be consulted for this service.
- Locate and identify all overhead utility lines before positioning or moving any elevated work platform, crane or rig superstructure. A designated employee or subcontractor shall be assigned as a "Boom Watch" before movement or repositioning of any elevated work platform, crane or rig superstructure and guide the operator until the maneuver is complete.

- When electrical service involving voltage exceeding 120 volts is required for site or project activities, qualified electricians will connect service according to all applicable Occupational Safety and Health Administration, National Electrical Manufacturers Association, Institute of Electrical and Electronic Engineers, NEC and any applicable local or state requirements, codes or standards.
- An accredited testing laboratory will approve all electrical hardware and components such as Underwriters Laboratory, Canadian Standards Association, Electrical Testing Laboratory or the American National Standards Institute.
- Ground fault circuit interrupters (GFCI) will be used for all hand tools. Any wiring that is not part of fixed building wiring, fixed building wiring which does not have access for a grounding prong or does not have a verifiable grounding system, must have ground fault circuit interrupters.
- Power cables, extension cords and electrical conductor insulation systems must be appropriately guarded and maintained in good condition.
- *SECOR* activities near open conductors, transformers and substations must have barricades and warnings appropriate to the electrical hazard. If this equipment is not identified, then the client and/or the local power utility will be contacted.
- All temporary cords or wiring in walkways or public areas will be protected from physical damage utilizing "cord guards" or other appropriate devices and designated with cones, barricades, and/or caution tape.

5.0 EXTENSION CORDS

Extension Cords:

- Will be limited to essential tasks;
- Must never be used as a permanent electrical solution;
- Must be connected to grounded outlets or GFCI;
- Must be inspected daily for loose insulation, broken or missing plugs, bared wires, etc.;
- Must not be allowed to become tripping (use minimum length needed) or slipping hazards;
- Must not be used for lifting or tying off, and will be disconnected by pulling on the plug;
- Must be of sufficient length to avoid becoming a tripping hazard; and
- Must be tagged out of service or destroyed if out of compliance.

6.0 EQUIPMENT/PERSONAL CONTACT WITH ELECTRICAL SOURCES

When *SECOR* personnel are working near or around electrical lines or sources, they will follow the following procedure:

6.1 Before Commencing Work

The Site Health and Safety Officer will assure that emergency phone numbers for the local power utility and local emergency services are posted on-site, and that a telephone is available in the immediate vicinity of the work area. Also, the Site Health and Safety Officer or a designated representative will locate all local electrical source shutdowns or disconnecting means that may be used in case of personnel or equipment contact with an electrical source. Additionally, personnel who may come in contact with electrical sources will be briefed on their location and this procedure.

6.2 Equipment Contact With a Live Electrical Source

If a vehicle/equipment comes in accidental contact with a live electrical source, the operator or any personnel on the vehicle/equipment **will not attempt to abandon the machine**, as this practice greatly increases the potential for personnel to become part of the electrical circuit and cause them to absorb the current. The operator and Site Health & Safety Officer will alert ground personnel not in physical contact with the equipment of the emergency and warn them to stay at a safe distance. A designated Site Health & Safety Officer will immediately contact the local power utility. Additionally, ground personnel will contact local emergency services as to the situation.

In the case of vehicle or heavy equipment contact with overhead lines, the operator will stay in place and remain in contact with the line.

In the case of vehicle or heavy equipment contact with underground utilities, the operator will attempt to free the vehicle/contact point from the electrical source (e.g., backing up, free line from bucket, raise drill). If this is not possible, the operator and those in contact with the machine will stay in place on the vehicle until the local power utility or site personnel can confirm that they have disengaged the electrical source from the source.

7.0 ELECTROCUTION RESCUE AND FIRST AID

Symptoms of electrical injury include unconsciousness, dazed/confused behavior, and burns where the current exited/entered the victim (often on the hand or foot). A major concern with an electrical accident victim is the potential for the source to be a danger to rescue personnel. In any electrical injury situation, a designated individual will immediately contact ground local emergency services as to the situation. Then the designated individual will contact the local power utility and alert them as to the emergency. The Site Health and Safety Officer will survey the accident scene at a safe distance and then determine if the area is safe for a rescue attempt. If possible, site personnel will shut down any previously designated

local fuses or switches to the electrical source.

If there is any question as to the presence of a live source near the victim, only professional emergency personnel will attempt the rescue. If the victim is safely accessible, a First Aid/Cardiopulmonary Resuscitation-trained individual will complete a primary survey of the victim and institute First Aid/Cardiopulmonary Resuscitation procedures as necessary until Emergency Medical Services have arrived. They will cover all burns with dry, sterile dressings and care for shock will be instituted. Due to the potential post-traumatic injuries associated with electrocution, all victims will be taken via Emergency Medical Services to a hospital or treatment facility for evaluation.

8.0 TRAINING

SECOR employees will be trained at the level of "unqualified persons" [per OSHA 1910.332(b)(1)] during the following training sessions:

- 40-hour Hazardous Waste Operations Training;
- Annual 8-hour Refresher Hazardous Waste Operations Training.

The following topics will be covered during these training sessions:

- Safety related work practices that pertain to their respective job assignments,
- Skills and techniques to distinguish live parts,
- Skills and techniques to determine the nominal voltage of exposed live parts, and
- Clearance distances.

9.0 RESPONSIBILITIES

9.1 Director of Industrial Hygiene and Safety (or suitable designee)

1. Issues policies and procedures designed to protect employees from exposure to the hazards of electrical energy.

2. Provides guidance to Project Managers and other employees on minimizing electrical hazards.

3. Coordinates with the SECOR Human Resources Department on the technical aspects of the development of the training and recordkeeping portions of this program.

4. Will consider comments received on the implementation of this policy on an annual or as needed basis to keep this program up to date and usable by employees.

5. Assists in the development of educational materials and plans as necessary.

9.2 Vice President Human Resources (or designee)

1. With technical input from the Director of Industrial Hygiene and Safety, establishes the training program designed to instruct employees about electrical hazards and precautions.

2. Maintains the records associated with medical surveillance and training.

9.3 Principals-In-Charge

1. Ensures that employees in his/her office who may potentially work in/near electrical hazards are provided with proper training to identify, assess and plan for work near electrical hazards.

9.4 Site Safety and Health Officers

1. As noted in other sections of this procedures:

   - Identify electrical hazards in the work area. Contact clients and power authorities as necessary.
   - Properly plan for electrical work and possible hazards.
   - Obtain the telephone numbers of and coordinate with officials of local power authorities and emergency rescue companies.
   - Instruct project employees in electrical hazards and precautions.

9.5 *SECOR* Staff

1. Take the hazards of electricity seriously.

2. Review this policy carefully and ask questions if necessary.

3. Ensure that training in electrical safety is obtained before working on projects dealing with electrical hazards.

10.0 REFERENCES

- 29 CFR 1926.650-52, "Excavations".
- 29 CRF 1926.400-.449, "Electrical Safety".
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

This procedure establishes requirements for affixing appropriate lockout devices or tagout devices to energy-isolating devices, and to otherwise disable machines or equipment to prevent unexpected energization, start up or release of stored energy in order to prevent injury.

2.0 SCOPE

This document covers all Secor employees potentially exposed to from the hazards of unexpected energization, startup, or release of stored energy from machine equipment during maintenance and servicing of equipment involved with hazardous waste operations. This includes situations such as, but is not limited to, soil vapor extraction, air sparging, groundwater pump and treat, thermal-catalytic oxidation, and bio-venting remediation systems.

This Program does not apply to:

- Minor tool changes, adjustments, and other minor servicing activities that take place during normal operations provided that such activities are routine, repetitive, and integral to the use of the equipment and the work is performed using alternative measures that provide effective personnel protection.
- Work on cord and plug-connected electric equipment if exposure to the hazards of unexpected energization of the equipment is controlled by unplugging the equipment from the energy source and if the plug is under the exclusive control of the employee performing service or maintenance. Pneumatic tools may also fall into this category provided that they can be completely isolated from their energy source.
- Hot-tap operations that involve transmission and distribution systems for electricity or substances (e.g., gas, steam, water, or petroleum products), when these activities are performed on energized electrical systems or pressurized pipelines, provided that the supervisor can demonstrate:

  - Continuity of service is essential.
  - Shutdown of the system is impractical.
  - Documented procedures are followed and special equipment that will provide proven, effective protection for employees is used.

3.0 RESPONSIBILITIES

3.1 Project Manager (or designee)

- Identifies a project as requiring lock and tag controls.

3.2 Site Health and Safety Officer and/or the Corporate Health and Safety Manager

- Assists the Project Manager (or designee) in the implementation of the lock and tag program for the specific Secor project.

3.3 Secor Employees

- Read and understand the requirements of the lock and tag procedure.
- Follow the requirements of the lock and tag procedure.
- Notify the Project Manager of any situation related to problems or concerns relative to implementation of lock and tag controls.

4.0 DEFINITIONS

Affected employee: An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized employee: A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this section.

Capable of being locked out: An energy-isolating device is capable of being locked out if it has a clasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy-isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy control capability.

Energized: Connected to an energy source or containing residual or stored energy.

Energy-isolating device: A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: a manually operated electrical circuit breaker, a disconnect switch, a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

Energy source: Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Hot tap: A procedure used in the repair maintenance and services activities that involve welding on a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

Lockout: The placement of a lockout device on an energy-isolating device, in accordance with an established procedure, ensuring that the energy-isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout device: A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy-isolating device in the safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

Normal production operations: The utilization of a machine or equipment to perform its intended production function.

Servicing and/or maintenance: Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

Tagout: The placement of a tagout device on an energy-isolating device, in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout device: A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy-isolating device in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed. The tagout device should contain the following items, or equivalent warnings:

- DANGER
- HANDS OFF/DO NOT OPERATE
- SIGNATURE LINE
- DATE LINE

5.0 PROGRAM REQUIREMENTS

The established procedure for the application of energy control shall cover the following elements and actions and shall be done in the following sequence:

1. **Lock and tag permits and hardware:** Lock and tag permits and hardware can be obtained by authorized personnel from the Project Manager or Site Health and Safety Officer.

2. **Machine or equipment shutdown:** An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees as a result of equipment de-energization.

3. **Machine or equipment isolation:** All energy-isolating devices that are needed to control the energy to the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source(s).

4. **Lockout or tagout device application:** Lockout or tagout devices shall be affixed to each energy-isolating device by authorized employees. Lockout devices, where used, shall be affixed in a manner that will hold the energy in a "safe" or "off" position. Tagout devices (see definitions above for suggested wording on tag) shall be affixed in such a manner as will clearly indicate that the operation or movement of energy-isolating devices from the "safe" or "off" position is prohibited.

   - Where tagout devices are used with energy-isolating devices designed with the capability of being locked, the tag shall be fastened at the same point at which the lock would have been attached.
   - Where a tag cannot be affixed directly to the energy-isolating device, the tag shall be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.

5. **Stored Energy:** Following the application of lockout or tagout devices to energy-isolating devices, all potentially hazardous stored energy shall be rendered safe. If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

6. **Verification of Isolation:** Prior to starting work on machines or equipment that have been locked out or tagged out, the authorized employee shall verify that

isolation and de-energization of the machine or equipment has been accomplished.

7. **Release from Lockout or Tagout:** Before lockout or tagout devices are removed and energy is restored to the machine or equipment, procedures shall be followed and actions taken by the authorized employee(s) to ensure the following:

   - **The Machine or Equipment:** The work area shall be inspected to ensure that nonessential items have been removed and that machine or equipment components are operationally intact.
   - **Employees:** The work area shall be checked to ensure that all employees have been safely positioned or removed. Before lockout or tagout devices are removed and before machines or equipment are energized, affected employees shall be notified.

8. **Lockout or Tagout Device Removal:** Each lockout or tagout device shall be removed from each energy-isolating device by the employee who applied the device.

   Exception: When the authorized employee who applied the lockout or tagout device (installer) is not available to remove it, that device may be removed under the direction of the installer's immediate supervisor. Specific training and procedures for such removal shall be provided by each department involved in lockout or tagout operations. The procedures and training shall be documented. The documentation shall demonstrate that safety equivalent to the original process of having only the installer remove the device is maintained. The specific procedure shall include at least the following elements:

   - *Verification by the immediate supervisor that the employee who applied the device is not at the site,*
   - *Making all reasonable efforts to contact the authorized employee to inform them that his/her lockout or tagout device has been removed, and*
   - *Ensuring that the authorized employee has this knowledge before they resume work at the facility.*

9. **Testing or Positioning of machines, equipment, or components thereof:** In situations where lockout or tagout devices must be temporarily removed from the energy-isolating device and the machine or equipment energized to test or position the equipment or component thereof, the following sequence of actions shall be followed:

   - Clear the machine or equipment of tools and materials.
   - Remove employees from the machine or equipment area.
   - Remove the lockout or tagout devices.

- Energize and proceed with testing or positioning.
- De-energize all systems and reapply energy control measures to continue the servicing and/or maintenance.

10. **Outside Personnel (contractors, etc.):** Whenever outside servicing personnel are to be engaged in activities covered by the scope and application of this Program, the Secor Project Manager (or designee) outside employer shall inform each other of their respective lockout or tagout procedures.

11. **Group Lockout or Tagout:** When servicing and/or maintenance is performed by a crew or department, they shall utilize a procedure which affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device. This shall be accomplished by:

- The application of a multi-lock accepting device by the primary authorized employee to the energy-isolating device.
- The primary authorized employee attaching his/her lock to the multi-accepting device.
- Each authorized employee shall affix a personal lockout or tagout device to the multi-lock accepting device when they begin work, and shall remove those devices when they stop working on the machine or equipment being serviced or maintained.
- The primary authorized employee removing his/her lock and the multi-lock accepting device when all service or maintenance has been completed.

12. **Shift or Personnel Changes:** To insure the orderly transfer of lockout or tagout devices between off-going and on-coming employees and minimize exposure to hazards from unexpected energization, start-up of the machine or equipment, or release of stored energy, these procedures shall be followed:

- The on-coming personnel shall notify the off-going personnel that they are ready to begin work on the machine or equipment.
- All lockout and/or tagout devices attached to the machine or equipment by the off-going personnel shall be removed and immediately replaced with like devices by the on-coming authorized personnel.
- The primary authorized employee shall insure that all pertinent co-ordination between off-going and on-coming personnel has been completed before the on-coming authorized personnel begin work on the machine or equipment and that all necessary energy has been rendered safe.

7.0 PERIODIC INSPECTIONS

The Corporate Health and Safety Manager shall conduct and document a periodic inspection of the energy control procedure at least annually to ensure that the procedure

and the requirements of this standard are being followed. The periodic inspection shall be conducted to correct any deviations or inadequacies identified. Where lockout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.

3.0 REFERENCES

- 29 CRF 1926.400-.449, "Electrical Safety", *Code of Federal Regulations.*
- 29 CFR 1910.147, " The Control of Hazardous Energy (lockout/tagout), *Code of Federal Regulations.*
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

To establish a written procedure for safely performing manual lifting.

2.0 SCOPE

This procedure is to be followed by all Secor employees whenever they perform manual lifting during the course of their work.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section V, Part G, ***General Procedures***

4.0 GENERAL LIFTING PROCEDURES

- Improper lifting can occur with almost any task, and injuries can occur with objects of almost any size and weight. Common lifting injuries include cuts, bruises, strains, sprains, and fractures.
- Physical differences make it impractical to establish safe lifting limits applicable to all workers. However, many injuries occur because individuals do not ask for help when they are in a hurry, tired, or because they are alone.

5.0 PRE-LIFT PROCEDURES

- Inspect the route of travel. Make sure it is clear and free of wet, slippery, loose, or other dangerous materials or surfaces;
- Inspect materials to be lifted for slivers, jagged or sharp edges, burrs, or rough or slippery surfaces;
- Determine whether sliding the object may be easier than lifting it;
- Keep fingers away from pinch and shear points (especially when setting down materials);
- When handling pipe, lumber, or other long objects, keep hands away from the ends to prevent them from being pinched;
- Wipe off greasy, wet, slippery, or dirty objects before handling them;
- Keep hands free of oil and grease; and
- Wear appropriate hand and foot protection (in the field, this usually includes at a minimum leather gloves and steel-toed boots).

6.0 LIFTING PROCEDURE

- Lift between knuckle and shoulder height whenever possible;
- Get a good grip on the load. Test the weight before trying to move it. If it is too bulky or heavy, use a mechanical lifting device or get someone to help (or both); and
- Get the load close to the body. Place feet close to the load. Stand in a stable position with the feet pointing in the direction of movement. Lift by concentrating on slowly straightening the legs.

DO NOT:

- Twist the back or bend sideways,
- Lift with the arms extended, or
- Continue lifting when the load is too heavy.

7.0 DRUM HANDLING

Drums should never be handled alone when full. Even empty or partially filled drums can cause injury. A commercially available drum tilter with wheels, or drum dolly with large rubber tires will be used with full or partially full drums.

8.0 REFERENCES

- 29 CFR 1910.176-.184, "Materials Handling and Storage", *Code of Federal Regulations.*
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

To establish a written housekeeping procedure for *SECOR* worksites.

2.0 SCOPE

Each *SECOR* employee is responsible for keeping his or her work area and job site neat and orderly.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section V, Part G, ***General Procedures***

4.0 GENERAL HOUSEKEEPING PROCEDURES

- Good housekeeping will assure an orderly arrangement of operations, tools, equipment, storage facilities, supplies and waste materials, and removal of excessive material waste or debris from the working area.
- All work areas must be kept free of debris. Material must be stored so that it cannot fall on employees.
- Tools or materials must not be placed where they may cause tripping or other safety related hazards.
- Access to exits must not be blocked. Access to fire fighting equipment, extinguishers, alarm boxes, and electrical or mechanical power panels must remain clear always. Minimum clearance in front of these panels will not be less than 36 inches square around the panel itself.
- There must be at least 18 inch clearances below ceiling water sprinklers.
- Oil, paints, thinners, solvents, waste rags or other flammable substances must be stored in approved flammable liquid containers and cabinets. All corrosive materials will be stored in approved storage cabinets close to emergency wash stations. (Also see Standard Safety Procedure 11: Hazardous Materials Use and Storage.)
- All spills of flammable liquids or slippery substances must be cleaned up immediately. Rags, flammable liquid containers or any other material contaminated by the flammable liquid must be disposed of properly.

- Extension or power cords, electrical connections, antennas and equipment lines are not to be placed in a manner that creates tripping or entanglement hazards. Broken or missing cover plates on electrical outlets and boxes must be replaced.
- Unused or inactive tools, equipment, apparatus and supplies, etc., must not accumulate in corners, cabinets, benches or on floors.
- Aisles and passageways at least 42 inches in diameter must be provided in all office, lab, and other work areas. All aisles, passageways and stairways must be kept clear of tools, materials, liquids, grease, and debris, including wood, bolts, nuts, paper and other similar materials.
- Storage of personal clothing, purses, lunch boxes, thermos bottles, water bottles, etc. will be at locations provided. At field sites, personal items will be stored in the support zone.
- Under no circumstances will food items be stored alongside field samples, reagents, or other chemicals, hazardous materials/wastes.

5.0 REFERENCES

- 29 CFR 1910.135, "Means of Egress", *Code of Federal Regulations.*
- 29 CFR 1926.10-.16, "General Health and Safety Provisions", *Code of Federal Regulations.*
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

To establish a written procedure for hazardous materials use and storage.

2.0 SCOPE

Each *SECOR* employee is responsible for following the proper procedures for hazardous materials use and storage.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part J, ***Hazardous Materials***
- Section V, Part G, ***General Procedures***

4.0 GENERAL HAZARDOUS MATERIALS USE AND STORAGE PROCEDURES

- Flammable liquids will be stored in approved containers in flammable storage cabinets, or 25 feet from any other storage or office area or any ignition sources.
- Combustible fuels will be separated from oxidizers, corrosives, and flammables, and stored in approved cabinets, or separated by 25 feet from other storage areas or buildings.
- Ensure proper segregation of chemicals (e.g., do not store acids and bases together).
- Raw/in-use chemical materials will be separated from waste materials.
- Approved grounding and bonding procedures will be used for transfer of flammable liquids from one container to another, including transfer of free product/waste from boreholes or groundwater wells.
- All tanks, containers and pumping equipment (portable or stationary) used for the storage or handling of flammable and combustible liquids will be listed by Underwriters Laboratory, Factory Mutual, or approved by the U.S. Mine Safety and Health Administration.
- As a minimum, a 10 lb. "ABC" fire extinguisher must be within 25 feet of any accumulation of 5 gallons or more of flammable liquids or gases.
- Material Safety Data Sheets must be maintained in the office, lab, or field for all hazardous materials stored or used.
- Proper labeling and signage will be maintained for all raw and waste chemical materials.

- Use proper personal protective equipment for handling hazardous materials, as specified in Material Safety Data Sheets or by Corporate Health and Safety.
- Know what to do in case of spill, leak, or other release.
- If gas cylinders are used or stored, be sure they are securely chained to prevent tipping, segregate empties, and ensure proper installation and operation of the regulator.

5.0 REFERENCES

- 29 CFR 1910.176-.184, "Materials Handing and Storage", *Code of Federal Regulations.*
- 29 CFR 1910.155-.165, "Fire Protection", *Code of Federal Regulations.*
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

To establish a minimum guide for drilling safety. Drillers must follow their own safety procedures for the specific equipment they are operating.

2.0 SCOPE

Each *SECOR* employee is responsible for following safety procedures during drilling operations.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section II, Part D, ***Detailed Description of Specific Tasks***
- Section V, Part G, ***General Procedures***

4.0 GENERAL DRILLING SAFETY PROCEDURES

The following safe work practices will be followed at or near drilling operations:

- All site personnel will be aware of the emergency shut-off switch. **The Site Health and Safety Officer should have the driller check this switch BEFORE work begins to assure auger rotation ceases. If it does not, work should cease;**
- An exclusion area must be established with barricades/safety cones and "caution" tape to prevent unauthorized personnel from entering the work area. Maintain a minimum radius of 20 feet whenever possible;
- Always provide for a dust cyclone and/or water suppression for air rotary drilling. Maintain a minimum radius of at least 25 feet whenever possible;
- Drilling or excavation will not commence when tree limbs, unstable or icy ground, or site obstructions cause unsafe conditions;
- Always conduct a utility clearance before drilling;
- Consider all electrical wires to be live and dangerous;
- Do not touch the rig while drilling if not necessary;
- The mast of the drill rig must maintain a minimum clearance of 20 feet from any overhead electrical cables;
- Drill rigs must never be moved when the mast is elevated;

- All drilling operations will cease immediately during any hazardous weather conditions, especially electrical storms;
- During the drilling operations, two contractor persons must be present always;
- Never reach behind or around a rotating drill for any reason;
- Avoid loose clothing which can become caught in equipment;
- Unattended boreholes or excavations will be adequately covered and secured to prevent equipment, personnel, animals or visitors from stepping or falling into the hole; and
- If the stability of adjoining structures could be, or becomes endangered by drilling, contact a *SECOR* registered civil engineer immediately before commencing work.

5.0 REFERENCES

- 29 CFR 1926.550-.556, "Cranes, Derricks, Hoists, Elevators, and Conveyors", *Code of Federal Regulations.*
- 29 CFR 1926.10-.16, "General Health and Safety Provisions", *Code of Federal Regulations.*
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

To establish a procedure for off-road vehicle safety at *SECOR* worksites.

2.0 SCOPE

This Procedure applies to all *SECOR* employees operating off-road vehicles such as snowmobiles, or all-terrain "quads." "Three-wheelers" are prohibited from use.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section V, Part G, ***General Procedures***

4.0 GENERAL OFF-ROAD VEHICLE SAFETY PROCEDURES

Employees operating off-road vehicles are required to attend a rider course approved by Corporate Health and Safety. At a minimum, the training will include the following:

- Operating Techniques;
- Safety Guidelines;
- Protective Equipment;
- Environmental and Terrain concerns;
- Local Laws; and
- Basic Survival.

5.0 BASIC "QUAD" SAFETY PROCEDURES

The Project Manager will prepare a Health and Safety Plan for review by Corporate Health and Safety before engaging in off-road vehicle activity.

The following is provided as basic safety procedures for operating all-terrain "quad" vehicles. Operators must remember that different types possess very different handling and operating characteristics, and each requires specific training and understanding.

- Select a vehicle that is appropriate for the rider's size, strength, and ability, and the terrain conditions that are expected.

- Assure rider has appropriate training for the vehicle selected. Rider should take time to get familiarized with the specific vehicle to be operated, including location of controls, gearing, fuel requirements, braking, etc.
- Select appropriate riding gear and personal protective equipment.
- Complete a pre-ride inspection, which includes, as a minimum, the following:
  - *Tires and wheels*: check air pressure, condition, spokes, lugs, axles, nuts and cotter pins;
  - *Controls and cables*: check location, operation and condition of brake, gear/shifter, clutch and throttle, check free-play, brake adjustment and wear, starter rope and recoil;
  - *Lights and electronics*: check operation of ignition switch, engine stop switch, and all lights;
  - *Oil and fuel*: while engine is off, check oil level (transmission, injector, engine and any hydraulics) and look for leaks, fuel level (assure range is sufficient for distance to be traveled), and condition of air filter; and
  - *Chain and chassis*: check condition and lubrication of chain, chain slack or free-play, drive shaft (if applicable) condition, torque converter belt (if applicable), and secureness of all nuts, bolts and cotter pins.

- Practice **SIPDE** always when operating the vehicle:

Scan	Keep eyes moving, search terrain, check overall environment, watch several seconds ahead, and avoid fixating on any one point.
Identify	Find hazards and problems, consider surface composition, other all-terrain vehicles, wildlife, and stationary objects.
Predict	Predict outcomes of any choices, consider necessary riding techniques, and think of consequences.
Decide	Slow down to allow reaction time, pick the best line or track considering traction, obstacles and visibility. Always choose to reduce risk and stay within personal and vehicle limits.
Execute	Adjust technique, adjust speed and adjust path.

- Remember all-terrain vehicles have a high center of gravity and are prone to tipping and rolling over. Adjust your speed and technique to meet the terrain, incline, and vehicle *always*. Never accelerate uphill or when making sharp turns.
- Never operate an all-terrain vehicle on asphalt, concrete, or public roads.
- Never operate a vehicle when fatigued, or under the influence of alcohol or prescription drugs that may impair your ability.

5.1 **Personal Protective Equipment** (Also refer to Policy 6.0: Personal Protective Equipment.)

Operators and passengers must always don the following personal protective equipment to protect against injuries and potentially hazardous exposures:

- Protective headgear that, at a minimum, complies with the American National Standards Institute and Department of Transportation and bears their symbols;
- Eye protection that, at a minimum, complies with the American National Standards Institute. Protective eye wear may be in the form of eyeglasses, goggles, or a face shield. All should be free from scratches, shatterproof, securely fastened and well ventilated to prevent fogging. The use of "Anti-fog" solution is also recommended;
- Protective footwear that, at a minimum, complies with the American National Standards Institute, completely covers the foot (over-the-calf preferred), has a heel to prevent slippage on foot pegs, and is appropriately insulated to meet the demands of potential weather conditions. Upon written authorization from *SECOR* Corporate Health and Safety, regulation Motocross Boots may be substituted;
- Full length clothing, i.e., pants and coat/coveralls; and
- Gloves with sufficient padding to protect the hands/knuckles against bruising or scraping. All gloves should be appropriately insulated to meet the demands of potential weather conditions.

5.2 **Additional Equipment**

All-terrain "quad" vehicles will be equipped with the following articles:

- First Aid kit sufficient for work in isolated or remote areas and the number of employees;
- At least one 2.5 lb. "ABC" dry chemical fire extinguisher;
- All-terrain vehicle tool kit. When appropriate, carry spare parts such as spark plugs, torque converter belts, etc.;
- Survival gear appropriate to the location, degree of isolation, potential weather conditions, and wildlife that may be encountered. Items to consider include: waterproof matches, candles, blankets, appropriately insulated sleeping bag, tent, foul weather gear,

hatchet/axe, bow saw, pocket/army knife, animal/bear repellant, rope, flares, compass, flashlight, toilet paper, high energy foods sufficient for the number of people and the maximum rescue time given the location, and water; and

- A reliable form of two-way communications.

6.0 REFERENCES

- 29 CFR 1926.600-.606, "Motor Vehicles, Mechanized Equipment, and Marine Operations,", *Code of Federal Regulations.*
- 29 CFR 1926.10-.16, "General Health and Safety Provisions", *Code of Federal Regulations.*
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

This procedure provides the requirements and responsibilities for the use, care, and maintenance of portable ladders.

2.0 SCOPE

This procedure is for use in all Secor managed projects that require the use of ladders.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

Section V, Part G, *General Procedures*

4.0 RESPONSIBILITIES

4.1 Principle-in-Charge (or designee)

Assures requirements for portable ladders followed by all project personnel, particularly emphasizing the need for a proper inspection before use by Secor employees.

4.2 SECOR Employees

1. Reads, understands, and complies with the requirements of this procedure, particularly the need for a proper inspection before use.
2. Notifies the Project Supervisor of ladders found to be defective, so they can immediately be marked in a manner that readily identifies them as defective, removed from service until the ladder is made safe for use, or destroyed and disposed of.

5.0 ELEMENTS OF THE LADDER SAFETY PROGRAM

5.1 Requirements Summary

Before initiating any work using a portable ladder, an inspection must be performed by a Secor employee. Ladders must be maintained in good condition at all times. Ladders found to be defective shall be immediately marked in a manner that readily identifies them as defective, removed from service until the ladder is made safe for use, or destroyed and disposed of.

5.2 Inspection Guidelines and Safe Practices

1. Visually inspection prior to use of ladders should focus on rivets, bolts, structural parts, and other hardware for integrity. The ladder operator should ensure that there are no parts coated with oil or grease. Ladders found to be defective shall be immediately removed from service until the ladder is made safe for use or destroyed and disposed of.
2. Manufactured ladders must be rated for industrial or heavy-duty use.
3. Job-made ladders shall be constructed to conform to the established OSHA/ANSI standards. Contact the Corporate Health and Safety Manager for the proper requirements.
4. Do not splice together short ladders to make a longer ladder.
5. All straight and extension ladders shall be equipped with safety feet or be secured at the bottom.
6. All straight ladders shall be secured at the top to prevent movement.
7. Ladders must not be placed against movable objects.
8. The base of straight or extension ladders shall be set back a safe distance from vertical (approximately one-fourth of the working length of the ladder).
9. Ladders used for access to a floor or platform shall extend at least 36 inches above such floor or platform.
10. The areas around the top and base of ladders must be free of tripping hazards such as loose materials, trash, cords, hoses and leads.
11. Ladders that project into passageways or doorways where they could be struck by personnel, moving equipment, or materials being handled, must be protected by barricades or guards.
12. Employees shall face the ladder when ascending or descending.
13. Be sure that your shoes are free of mud, grease, or other substances that could cause a slip or fall.
14. Do not carry materials up or down a ladder. You must use both hands when going up or down a ladder.
15. Always move the ladder to avoid overreaching.
16. Stepladders shall be fully opened to permit the spreader to lock.
17. Employees must never stand on the top two steps of a stepladder.
18. Metal ladders shall not be used for electrical work or in areas where they could contact energized wiring.

6.0 REQUIREMENTS AND REFERENCES

- 29 CFR 1926.1053, "Ladders", *Code of Federal Regulations.*
- ANSI A14.4, *Safety Requirements for Job-Made Ladders.*

1.0 PURPOSE

This procedure provides the safety requirements and responsibilities during welding, cutting, and brazing activities.

2.0 SCOPE

This procedure is for use in all Secor managed projects that require welding, cutting, and brazing.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

Section II, Part D, ***Detailed Description of Specific Tasks Planned***

4.0 RESPONSIBILITIES

4.1 Project Manager (or designee)

Assures safety requirements for welding, cutting, and brazing are followed by all project personnel, particularly emphasizing the need for a proper fire protection.

4.2 SECOR Employees

1. Reads, understands, and complies with the requirements of this procedure, particularly the need for a proper fire protection.
2. Notifies the Project Supervisor of any unsafe situation involving welding, cutting, or brazing, so that the situation can be immediately corrected.

5.0 ELEMENTS OF THE WELDING, CUTTING, AND BRAZING SAFETY PROGRAM

5.1 Requirements Summary

Before welding, cutting or brazing is permitted, the area should be inspected for fire hazards, and the following written fire permit (or equivalent) issued:

Fire Permit

☐ An employee trained in the use of fire extinguishers, and able to sound a fire alarm or warn other employees in the event of a fire, must be assigned during welding, cutting and brazing activities which meet one of the following conditions:

- Combustible materials closer than 35 feet to point of operation
- Combustibles that are more than 35 feet away, but easily ignited.
- Wall or floor openings within 35 feet exposing combustible materials.
- Combustible materials that are adjacent to the opposite side of metal partitions, ceiling or roofs

☐ Cutter, welders and their supervisors must be suitable trained in the safe operation of their equipment. Workers in charge of oxygen or fuel gas equipment must be trained and competent. Gas shielded arc welding should be done in accordance with American Arc Welding Society Standard A6-1-1966.

☐ Oxygen should be stored in an upright position at least 20 feet from flammable gases or petroleum products.

☐ If the object to be welded or cut cannot be readily moved, all movable fire hazards should be removed. Guards should be used to confine the heat sparks and slag, and to minimize fire hazards

☐ Fire extinguishers should be readily available, and the fire watch should last at least 30 minutes after the operation has been completed.

☐ First aid kit readily available.

6.0 REQUIREMENTS AND REFERENCES

- 29 CFR 1910.252, "Fire Protection", *Code of Federal Regulations.*
- 29 CFR 1926.350-.354, "Welding and Cutting, *Code of Federal Regulations.*

1.0 PURPOSE

This procedure provides the safety requirements and responsibilities during welding, cutting, and brazing activities.

2.0 SCOPE

This procedure is for use in all Secor managed projects that require welding, cutting, and brazing.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

Section II, Part D, ***Detailed Description of Specific Tasks Planned***

4.0 RESPONSIBILITIES

4.1 Project Manager (or designee)

Assures safety requirements for welding, cutting, and brazing are followed by all project personnel, particularly emphasizing the need for a proper fire protection.

4.2 SECOR Employees

1. Reads, understands, and complies with the requirements of this procedure, particularly the need for a proper fire protection.
2. Notifies the Project Supervisor of any unsafe situation involving welding, cutting, or brazing, so that the situation can be immediately corrected.

5.0 ELEMENTS OF THE WELDING, CUTTING, AND BRAZING SAFETY PROGRAM

5.1 Requirements Summary

Before welding, cutting or brazing is permitted, the area should be inspected for fire hazards, and the following written fire permit (or equivalent) issued:

Fire Permit

☐ An employee trained in the use of fire extinguishers, and able to sound a fire alarm or warn other employees in the event of a fire, must be assigned during welding, cutting and brazing activities which meet one of the following conditions:

- Combustible materials closer than 35 feet to point of operation
- Combustibles that are more than 35 feet away, but easily ignited.
- Wall or floor openings within 35 feet exposing combustible materials.
- Combustible materials that are adjacent to the opposite side of metal partitions, ceiling or roofs

☐ Cutter, welders and their supervisors must be suitable trained in the safe operation of their equipment. Workers in charge of oxygen or fuel gas equipment must be trained and competent. Gas shielded arc welding should be done in accordance with American Arc Welding Society Standard A6-1-1966.

☐ Oxygen should be stored in an upright position at least 20 feet from flammable gases or petroleum products.

☐ If the object to be welded or cut cannot be readily moved, all movable fire hazards should be removed. Guards should be used to confine the heat sparks and slag, and to minimize fire hazards

☐ Fire extinguishers should be readily available, and the fire watch should last at least 30 minutes after the operation has been completed.

☐ First aid kit readily available.

6.0 REQUIREMENTS AND REFERENCES

- 29 CFR 1910.252, "Fire Protection", *Code of Federal Regulations.*
- 29 CFR 1926.350-.354, "Welding and Cutting, *Code of Federal Regulations.*

1.0 PURPOSE

This procedure provides the requirements and project responsibilities for basic fire protection and training, particularly involving the use of portable fire extinguishers.

2.0 SCOPE

This procedure applies to all Secor employees who may need to use a portable fire extinguisher for situations such as a fire watch (welding/cutting etc.).

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section I, Part B, ***Action Levels for Chemical Monitoring***
- Section II, Part H, ***Landfills and Other Areas Containing Explosive Gas***
- Section II, Part J, ***Hazardous Materials***

4.0 REQUIREMENTS

1. Training Requirements

For those Secor employees covered by the scope of this procedure, basic fire prevention training will be provided that includes the following items:

- Good housekeeping practices
- Proper response/notification in the event of a fire
- Instruction in the use of portable fire extinguishers
- Recognition of potential fire hazards

Employees that may use a portable fire extinguisher for situations such as a fire watch (welding/cutting, etc.) should receive hands-on training annually.

2. Inspection Requirements

Portable fire extinguishers shall be inspected, and maintained fully charged and operational at all times. Portable fire extinguishes shall be retested or removed from service before their hydrostatic test date.

3. Fire Extinguisher Requirements

Fire extinguishers are manually operated, portable devices that will discharge an extinguishing agent when properly activated. They are designed as a method of

controlling a fire during the time between discovery and arrival of the Fire Department.

Effective extinguishants for burning materials are as follows:

Class of fire	Characteristics of burning materials	Extinguisher
Class A	Ordinary combustible materials such as cellulose products, wood, paper, cloth, plastics, or rubber	Water, multipurpose dry chemical (ABC), or Halon
Class B	Flammable and combustible liquids such as oils, gasoline, alcohol, and solvents	Carbon dioxide, Halon, or dry chemical (BC or ABC) (see SAFETY NOTE 1 below)
Class C	Electrical equipment and wire installation while electrical current is on	Carbon dioxide, Halon, or dry chemical (BC or ABC) (see SAFETY NOTE 2 below)
Class D	Burning magnesium, thorium, uranium, potassium, and sodium metals	G-1 powder (special graphite) or Metl-X (sodium chloride)

SAFETY NOTE 1: Do not use water on a flammable or combustible liquid fire because it will spread and accelerate the fire. An explosion may result if water is used.

SAFETY NOTE 2: Do not use water on energized electrical equipment. Many electrical fires can be controlled by safely turning off the power for equipment.

5.0 REFERENCES

- 29 CFR 1926.351, *Welding and Cutting Fire Protection.*
- NFPA 1, *Fire Prevention Code.*
- NFPA 10, *Standards for Portable Fire Extinguishers.*

1.0 PURPOSE

This procedure explains what requirements and precautions are needed by Secor employees when working with lifting/mobile equipment.

2.0 SCOPE

This procedure is for use during all operations and projects conducted by Secor where exposure to hazards associated with lifting/mobile equipment.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section IV, Part E, ***Potential Non-Chemical Hazards***
- Section IV, Part F, ***Task Specific Hazards***

4.0 GENERAL PROCEDURES

The following safety procedures will apply to the lifting/mobile equipment:

- *SECOR* will employ only subcontractors that have been properly trained/qualified (including the use of fire extinguishers) personnel to operate lifting/mobile equipment. The subcontractor should be able to provide proper maintenance and inspection records for the equipment.

- Rated load capacities, recommended operating speeds, and special hazards warnings or instructions will be conspicuously posted on all equipment.

- Equipment will be inspected by a competent person before each use, and all deficiencies corrected before further use.

- The use of a crane or derrick to hoist employees on a personnel platform is prohibited.

5.0 REFERENCES

- 29 CFR 1910.176-.184, "Materials Handling and Storage", *Code of Federal Regulations.*
- 29 CFR 1910.120, "Waste Management and Emergency Response," *Code of Federal Regulations.*

1.0 PURPOSE

This procedure explains what requirements and precautions are needed by Secor employees when performing sandblasting activities.

2.0 SCOPE

This procedure is for use during all operations and projects conducted by Secor where exposure to hazards associated with sandblasting.

3.0 SECOR FIELD OPERATIONS AND DOCUMENTATION

This procedure supports the following component of Secor's site specific Safety and Health Plans (HASPs):

- Section IV, Part E, ***Potential Non-Chemical Hazards***
- Section IV, Part F, ***Task Specific Hazards***

4.0 GENERAL PROCEDURES

The following safety procedures will apply to sandblasting activities:

- *SECOR* will employ only subcontractors that have been properly trained/qualified personnel to perform sandblasting activities. This includes the following requirements that are specific to silica exposure:
  - SECOR will ensure that all contract employees have been provided (by their employer) information about silica adverse health effects, proper work practices, proper warning signs, personal hygiene (washing hands and face, showering) and the use and of personal protective equipment (including disposable work clothes).
  - Contract employees should be medically qualified and informed of the symptoms of silicosis (shortness of breath, fever, and bluish skin).
  - Alternate blasting media should be used whenever possible.
  - If necessary, air monitoring should be conducted to measure worker exposure to silica.

5.0 REFERENCES

- 29 CFR 1926.21, "," *Code of Federal Regulations.*

HEALTH AND SAFETY PLAN TEMPLATE

HEALTH AND SAFETY PLAN

SITE
NAME
ADDRESS
CITY, STATE

CLIENT
NAME
ADDRESS
CITY, STATE

Submitted by:
SECOR International Incorporated
ADDRESS
CITY, STATE

_____, 1999

SECOR Project No. _____

HASP No. 99 -_

SECOR

HEALTH AND SAFETY PLAN
REVIEW AND APPROVAL

CLIENT:_____ SITE NAME:_____

PROJECT NAME:_____ PROJECT NUMBER:_____

START DATE:_____ END DATE:_____

PLAN EXPIRATION DATE:_____
(Last day of expected field work or no longer than 6 months).

_____ Signature:_____ Date:_____
Plan Completed By

_____ Signature:_____ Date:_____
Project Manager

_____ Signature:_____ Date:_____
Health & Safety Coordinator

_____ Signature:_____ Date:_____
Site Health and Safety Officer

_____ Signature:_____ Date:_____
Corporate Health and Safety

This Health and Safety Plan has been written for the use of *SECOR* and its employees. It may also be used as a guidance document by properly trained and experienced *SECOR* subcontractors. However, *SECOR* does not guarantee the health or safety of any person entering this site.

Due to the potential hazardous nature of this site and the activity occurring thereon, it is not possible to discover, evaluate, and provide protection for all possible hazards which may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but not eliminate, the potential for injury at this site. The health and safety guidelines in this Plan were prepared specifically for this site and should not be used on any other site without prior research by trained health and safety specialists.

SECOR claims no responsibility for its use by others. The Plan is written for the specific site conditions, purposes, dates, and personnel specified and must be amended if these conditions change.

TABLE OF CONTENTS

LIST OF ATTACHMENTS

SECOR
LOCAL EMERGENCY AND PROJECT TELEPHONE NUMBERS
(POST)

LOCAL EMERGENCY NO.S*:

	NAME	TELEPHONE NO.
Hospital		
Ambulance		
Police/Sheriff		
Fire		
Utilities		
Other:		

*Include numbers other than "911".

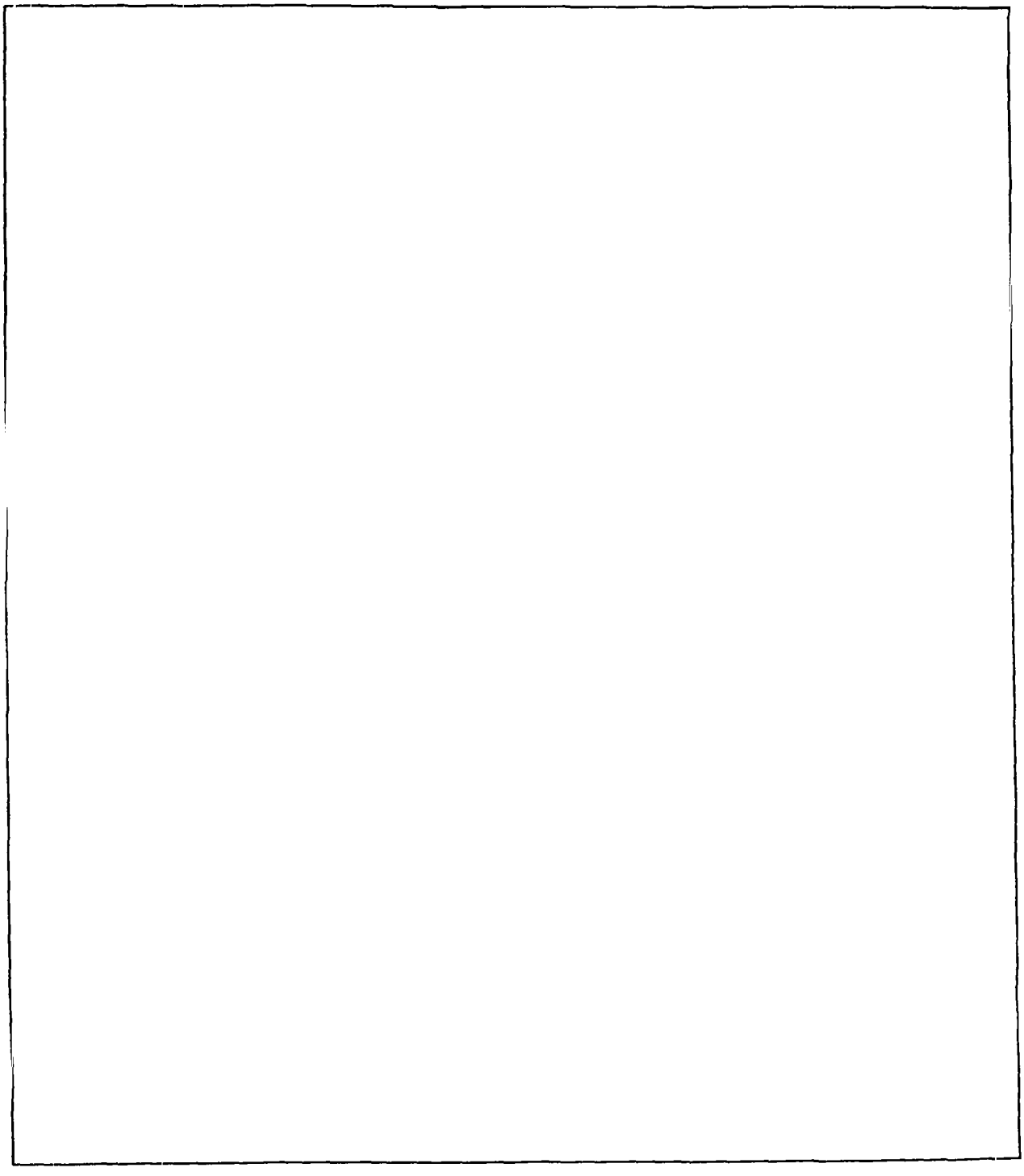
PROJECT PERSONNEL NO.S:

	NAME	TELEPHONE NO.
Site Health and Safety Officer		*(ON-SITE PHONE)*
Project Manager		
Principal-in-Charge		
Site Contact		
Client Contact		
Health and Safety Supervisor		
Corporate Health and Safety	Phil Platcow	617-232-7355
Vice President Human Resources	Marguerite Shuffelton	619-718-9430
Other:		

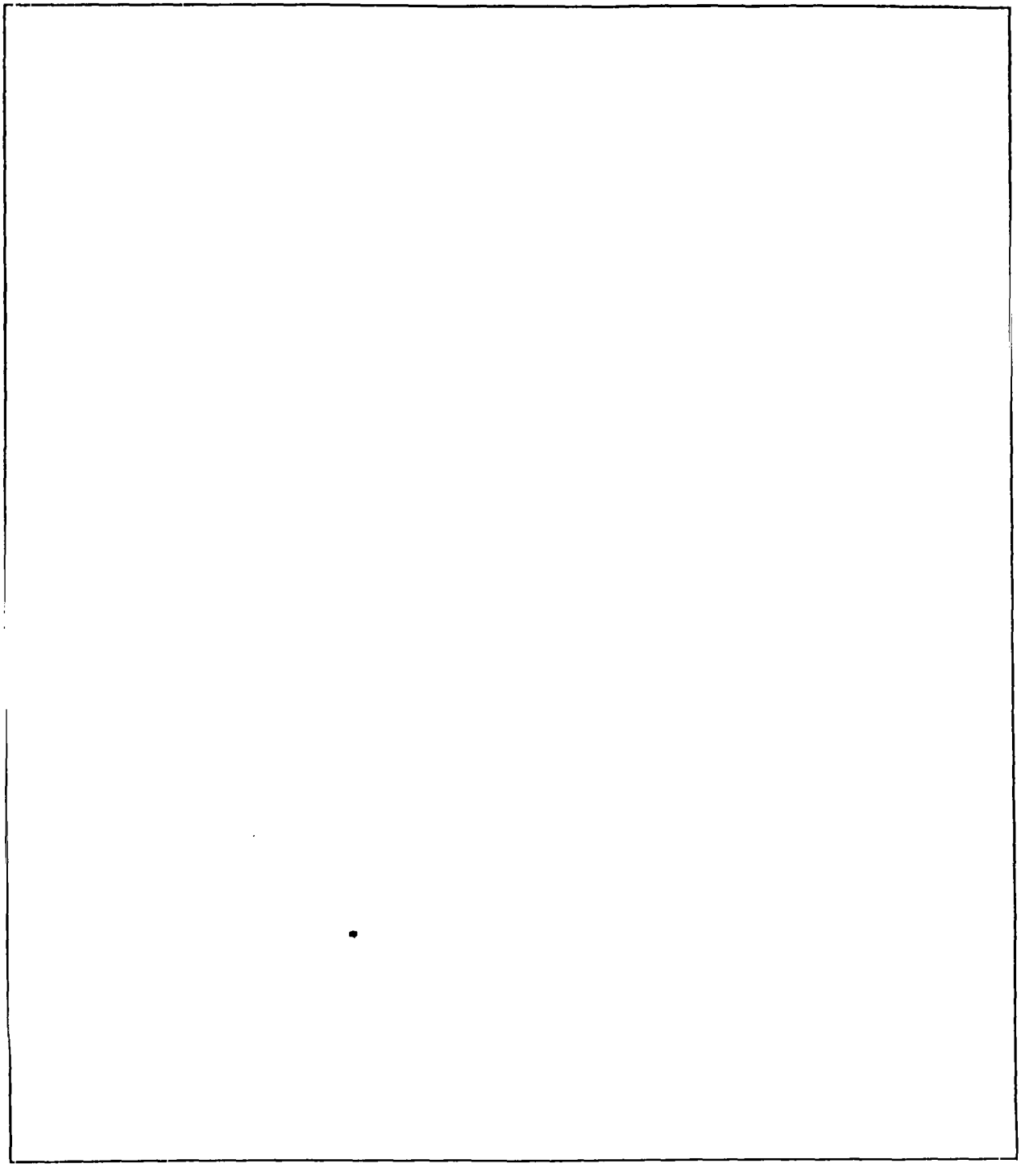
GOVERNMENTAL CONTACT NO.S:

	NAME	TELEPHONE NO.
Other:		

HOSPITAL LOCATION MAP (attach or draw):
(POST)



SITE MAP (attach or draw):
(POST)



CLIENT - CITY, STATE

SECOR Project No._____

I. TASK SPECIFIC HEALTH AND SAFETY RISK ANALYSIS

A. Predominant Potential Site Chemical Hazards*

CHEMICAL (OR CLASS)	PEL-TWA / TLV-TWA	OTHER PERTINENT LIMITS	WARNING PROPERTIES	ROUTES OF EXPOSURE OR IRRITATION	ACUTE HEALTH EFFECTS	CHRONIC HEALTH EFFECTS/ TARGET ORGANS

*The Site Health and Safety Officer must notify the Health & Safety Coordinator at the end of work that day if a PEL, TLV, etc. is exceeded.

PEL-TWA = Permissible Exposure Limit-Time Weighted Average (8 hours).
TLV-TWA = Threshold Limit Value-Time Weighted Average (8 hours).
STEL = Short Term Exposure Limit (15 minutes).
IDLH = Immediately Dangerous to Life or Health.
C = Ceiling Limit (not to be exceeded, even instantaneously).
SKIN = Skin absorption can be a significant part of exposure.

B. Action Level Table for Chemical Monitoring*

CHEMICAL (OR CLASS)	MONITORING EQUIPMENT	TASK NO.	MONITORING FREQUENCY/ LOCATION (source, area or breathing zone).	LEVEL FOR RESPIRATOR USE	LEVEL FOR WORK STOPPAGE

- Record peak readings every _____ minutes, or more frequently as necessary.
- Set alarm on instrument at _____.
- Calibrate equipment every _____.
- Leak check colorimetric tube pump daily.

*Complete **Attachment 5 (Air Monitoring Equipment Calibration/Check Log) and Attachment 6 (Air Monitoring Log).**

Personal Protective Equipment Requirements:

Level 'D': Safety glasses, hard hat, disposable ear plugs, long-sleeved shirt and pants, steel-toe boots. For contact with moist soil or liquid:

Gloves Inner:_____ Outer:_____

Chemical resistant boots or boot covers_____

Chemical resistant suit_____

Other_____

Level 'C'*: Level 'D' plus:

Air-purifying Respirator (Half- or Full-Face)_____

Cartridges_____

Gloves Inner:_____ Outer:_____

Chemical resistant boots or boot covers_____

Chemical resistant suit_____

Other_____

*The Site Health and Safety Officer must notify the Health & Safety Coordinator at the end of work that day if Level 'C' is used.

II. GENERAL SITE REQUIREMENTS AND BACKGROUND INFORMATION

A. Health and Safety Plan Responsibilities

- Prior to beginning on-site work, the Project Manager will ensure Attachments 1-4 are completed.
- The Site Health and Safety Officer (SHSO) will ensure Attachments 5-8 are completed the first day of on-site work. Within 24 hours of the end of field work, the SHSO will submit the completed HASP to the Health & Safety Coordinator (HSC).
- The Site Health and Safety Officer will oversee the overall Plan. He/she has the authority to stop work or prohibit any personnel from working on the site at any time for not complying with any aspect of the Plan.
- The Subcontractor Field Supervisor is responsible for implementing the Plan for his/her own employees.
- *Each person on the site has responsibility for their own health and safety, as well as assisting others in carrying* out the Plan. Any person observed to be in violation of the Plan should be assisted in complying with the Plan, or reported to the Site Health and Safety Officer or the Subcontractor Field Supervisor.
- Any site personnel may shut down field activities if there is a real or perceived immediate danger to life or health.

Minimum Training, Respirator Fit-Testing, and Medical Surveillance Requirements for Site Personnel

- 40 hr. Hazardous Waste Operations Training (HAZWOPER)
- 8 hr. Annual HAZWOPER Refresher Training
- 8 hr. Supervisor HAZWOPER Training for Site Health and Safety Officer
- First Aid and CPR Training for Site Health and Safety Officer
- Annual Respirator Fit Testing
- Annual Medical Clearance

C. Purpose of Field Work:

_____
_____
_____

D. Detailed Description of Specific Tasks Planned (Number each separate task in order of progression. The task numbers assigned here will be referred to throughout the Plan):

1. _____
2. _____
3. _____
4. _____
5. _____

6. _____
_____

7. _____
_____

E. **Initial Site Entry** Has this been performed by *SECOR*? (YES/NO): _ If YES, describe:

_____
_____
_____

F. **Interior Work & Confined Spaces**

Will any work be done inside an enclosure, building, or confined space? (YES/NO):___. If YES, describe:

_____
_____
_____

Attachment 13 will be completed for permit-required confined spaces.

Excavation and Trenching

Excavation and/or trenching will be done on this site? (YES/NO): ____. If YES, describe including proposed dimensions and if entry may be required (including mounting tanks for vacuuming, purging, sampling, etc.):

_____
_____
_____

Attachment 12 will be completed for excavations of any depth and requiring entry.

H. **Landfills and Other Areas Potentially Containing Explosive Gas or Vapor**
Site is in an area containing a current/former landfill, or the geology contains known/suspected pockets of explosive gas/vapor? (YES/NO) ___. If YES, describe:

_____
_____
_____

I. **Time of On-Site Work**
Work will be done during daylight hours? (YES/NO):___. If NO, describe:

_____

J. **Hazardous Materials**
Will any hazardous materials (chemicals) be used on-site? (If so, include MSDS's under Attachment 11.) (YES/NO): _. If YES, describe:

_____

K. **Background Information** (e.g.,historical operations and environmental investigations):

_____
_____
_____
_____
_____
_____

III. SITE CHARACTERISTICS

A. **Facility Description:** (Identify structures, buildings, pits, impoundments, and work area.):

_____
_____
_____
_____

B. **Site Status:** Occupied (Yes/No): ___ (If Yes, describe current activities and relationship to field work):

_____
_____
_____
_____
_____

C. **Unusual Site Features:** (water supply, telephone, radio, powerlines, traffic patterns, gas lines, water mains, terrain, vacant lots, debris, other physical hazards, etc.):

_____

Site Map: [see p. iii - include adjacent buildings, encumbrances, site facility, previous project location (if any), proposed project location, and location of nearest phone].

E. **Contaminant Description** (Maximum concentrations from most recent investigation.):

	Substance	Source of Contamination	Source of Sample (soil, water, etc.)	Sample Concentration	Environmental Regulatory Action Level*
1.					
2.					
3.					
4.					

Reference:

_____
_____

*For HASP reference purposes only.

IV. WASTE CHARACTERISTICS

A. Waste Generation [Type(s)/Quantities Expected]:

Anticipated: Yes _____ No _____

Types: Liquid _____ Solid _____ Sludge ____ Other (describe) _____

Quantity (Expected Volume): _____

B. Expected Health Characteristics:

Corrosive ____ Flammable/Ignitable _____ Radioactive ____ Toxic _____

Reactive _____ Unknown ____

Other (specify) _____

C. Packaging requirements for waste material (Expected):

- open head 55-gallon drum _____
- closed head 55-gallon drum _____
- overpack drum _____
- baker tanks _____
- lined waste bins _____
- other _____

D. Disposal and/or Treatment Methods Proposed:

_____
_____
_____
_____

_____ will be responsible for characterizing, packaging, labeling, storing, and disposing of suspected or known waste.

E. Potential Non-chemical Hazards

	YES	NO
Overhead/underground hazards		
• Overhead (describe)_____		
• Underground (describe)_____		
Equipment hazards		
• Geoprobe		
• Drilling		
• Excavation		
• Machinery		
Heat exposure		
Cold exposure		
Oxygen deficiency		
Confined space		
Noise		
Ionizing radiation		
Non-ionizing radiation		
Fire/Explosion		
Electrical		
Biological		
Work Surfaces		
• Holes/ditches		
• Steep grades		
• Slippery surfaces		
• Uneven terrain		
• Unstable surfaces		
• Elevated work surfaces		
Shoring		
Other:_____		

F. **Task Specific Hazards:**

	TASK	HAZARD RATING	IDENTIFIED/ ANTICIPATED HAZARDS
1.			
2.			
3.			
4.			
5.			
6.			
7.			

G. **Overall Hazard Rating:** (Unknown, low, moderate, serious, or extreme):

_____

V. GENERAL SITE HEALTH AND SAFETY PROCEDURES

A. **MAPS - Site Map and Hospital Location Map (p. iii and p. ii):** Hospital route must be clearly marked. POST SITE AND HOSPITAL LOCATION MAPS.

B. **Post "Local Emergency and Project Telephone Numbers"; p. i**

C. **Site Security:** Site Health and Safety Officer is responsible for preventing unauthorized entry onto the site and for knowing who is on-site at all times.

1. Work will be done around heavy equipment (e.g. drill rig, backhoe, etc.):
(YES/NO): _____

   If YES, describe: _____
   _____
   _____

2. Work will be done in or adjacent to a road, street or highway:
YES/NO _____

   If YES, describe: _____
   _____
   _____

3. Reflective vests will be worn around heavy equipment or when working in or around traffic.

4. Prior to working on-site, a general inspection for hazards will be made by the Site Health and Safety Officer.

5. Access to the work site will be controlled in the following manner:

   - Work site area perimeter identification method (describe equipment and procedures to be used):

     _____

   - Work area security (on- and off-hours):

     _____

6. If an on-site command post is necessary, ensure that it is located upwind from sources, give prevailing winds, and locate/identify on Site Map (p. iii).

7. On-site personnel must be able to call off-site via a telephone within 150 feet of work.

8. Designate at least one vehicle for emergency use.

D. Work Limitations and Restrictions:

- No eating, drinking, or smoking on-site, except in the support zone.
- No rings, watches, bracelets, necklaces, or other jewelry that could trap chemical contamination or get caught in moving equipment.
- No facial hair that would interfere with respirator fit.
- Buddy system at all times in Level 'C' or 'B', or when working around heavy equipment like backhoes or drill rigs.

E. Heat and Cold Stress

The Site Health and Safety Officer will monitor weather broadcasts before the start of outdoor work each day, and more frequently as necessary. No work will be done outdoors during hazardous weather conditions.

- Heat Stress
  - For temperatures above 90°F, each person will take their pulse at rest. At breaks, the pulse should be less than 110 beats per minute after one minute. Before returning to work, the pulse should be no more than 10 beats greater than the resting pulse.
  - If the air temperature is greater than 95°F, work should be done for 30 minutes with a rest break of 10 minutes for Level D. For Level C, work should be done for 20 minutes, with a rest break of 10 minutes. At least 8 ounces (1 cup) of cool water, Gatorade-type drink, or dilute fruit juice should be consumed at each rest break or at least one cup every 20 minutes.
  - Work should stop if any of the following symptoms occur: muscle spasm and/or pain in the limbs or abdomen (heat cramps); weak pulse, heavy sweating, dizziness, and/or fatigue (heat exhaustion); or rapid pulse, no sweating, nausea, dizziness, and/or confusion (heat stroke). Provide First Aid immediately.
  - Use sunscreen on unprotected skin to protect against ultraviolet exposure as necessary.
- Cold Stress

  Hypothermia
  - A majority of cold-related worker fatalities have resulted from failure to escape low environmental air temperatures, or from immersion in low temperature water. The single most important aspect of life-threatening hypothermia is a sharp decrease in the body's deep core temperature.
  - Hypothermia occurs when the body loses heat faster than it can be produced. The body's "normal" deep body temperature is 99.6° Fahrenheit. If the body's temperature drops to 95° Fahrenheit, uncontrollable shivers will occur. If cooling continues, several other symptoms may occur. Such symptoms may include:
    - Vague, slow, slurred speech
    - Forgetfulness, memory lapses

- Loss of dexterity - inability to use hands
- Numbness in the extremities
- Frequent stumbling
- Drowsiness
- Exhaustion, collapse
- Unconsciousness
- Death

Caution must be taken in any low temperature environment. Hypothermia can occur at temperatures above freezing. Cold, wet, windy conditions are primary causative agents to hypothermia and make prime hypothermia weather. However, evening and morning temperatures in desert environments can also be a concern for hypothermia.

Hypothermia impairs judgment, causing an inability to make sound decisions on and off the job. Such impairment can increase your risk to other hazards.

Frostbite

Frostbite is the freezing of body tissue. Fingers, toes, and even whole arms and legs can be lost as a result of frostbite. Pain in the hands and feet is felt only when temperature of the tissue is changing very rapidly. It must be recognized that there may be no pain with gradual freezing. This makes frostbite extremely dangerous. The initial onset of frostbite must be treated immediately to prevent any further tissue.

Loss of the sensations of touch, pressure, and pain may occur without awareness of any numbness or other sensation. Therefore, it is important to test these sensations often and to wear clothing that is loose and does not restrict the flow of the blood to the limbs.

All exposed parts of the body should be inspected routinely by a partner. It is very important to recognize symptoms of exposure. Before freezing, the skin - especially the face with its many blood vessels - becomes bright red. As more exposure occurs, small patches of white appear. This indicates that freezing of the tissue/skin is occurring. With exposure, the skin also becomes less elastic. This is best noted in the finger pads, which remain pitted when touched or squeezed. Any further exposure will result in frostbite.

Serious freezing is most common in the feet, as opposed to other parts of the body because there is less awareness of them, because of poor circulation, poor sensation, and because of inadequate footgear. Hands are next in order of serious injury. Exposed head parts are less likely to become frostbitten than feet because they are conditioned to exposure and have a better blood supply.

Next to the extent of freezing, inadequate or improper treatment of a frozen part is the most common cause of serious loss of tissue. If you suspect you or a co-worker has experienced frostbite, seek medical attention immediately. Immediate response for cold related illnesses can be found in the American Red Cross First Aid Handbook distributed during First Aid/ CPR refresher classes. It is recommended that a copy of this document be immediately available at all SECOR job sites.

WORK PRACTICES

Employees shall be provided with warm clothing, such as gloves, mittens, heavy socks, etc., when the air temperature is below 40-45° Fahrenheit (F. If appropriate, chemical protective clothing may be used to protect the employee from the cold.

When the air temperature is below 30-40°F (depending upon employee comfort), clothing for warmth, in addition to chemical protective clothing, shall be provided. This will include insulated suits, such as whole-body thermal underwear; wool socks or polypropylene socks to keep moisture off the feet if there is a potential of work activity which would cause sweating; insulated gloves (when air temperatures are extremely low [less than 5-10°F, gloves with reflective surfaces, which reflect body heat back to the hand, should be used); boots; and insulated head cover, such as knit caps).).

Remember, heat loss primarily occurs through the head and other exposed body parts. As a rule, a wool cap or similar type of insulating garment should be worn on the head as a preventative measure.

At air temperature below 35°F, the following work practices must be followed:

- If the clothing of an employee might become wet on a job site, the outer layer of the clothing must be impermeable to water. In severe weather conditions and/ or cold and wet conditions, it is recommended that material that is highly impermeable to moisture be worn such as Gortex.
- If an employee's underclothing (gloves, socks, coveralls, mittens, etc.) becomes wet in any way, the employee must change into dry clothing immediately. If the clothing becomes wet from sweating, the employee may finish the task, which caused the sweating before changing into dry clothing.
- Employees must be provided a warm area (65°F or above) to change from work clothing into street clothing.
- Employees must be provided a warm break area (60°F or above). The frequency of breaks should be established for all temperature regimens: 40-45°F, 30-40°F, etc.
- If appropriate, space heaters may be provided in the work area to warm the hands, feet, etc. When using heaters all necessary fire and electrical safety practices shall be followed. Space heaters shall be shut off when a work area is not occupied.
- Hot liquids, such as soups, warm, sweet drinks, etc. shall be provided in the break area. The intake of caffeinated beverages shall be limited because of the attendant diuretic and circulatory effects.
- The buddy system shall be practiced at all times. Any employee observed with severe shivering shall leave the cold area immediately.
- Employees should layer their clothing, i.e., wear thinner, lighter clothing next to the body with heavier clothing layered outside the inner clothing. This will reduce sweating (which may lead to evaporative cooling) and provide for better warmth.
- Avoid overdressing when going into warm areas or when performing activities, which are strenuous. This could lead to heat stress.
- Auxiliary heated versions of handwear, footwear, etc., can be used in lieu of gloves, mittens, insulated socks, etc. if extremely cold conditions exist, and if compatible with hazards in the work

area.

- Employees handling evaporative liquids (gasoline, hexane, toluene, alcohol, etc.) shall take special precautions to avoid soaking of clothing or gloves with the liquids because of the added danger of cold injury due to evaporative cooling.

- Work shall be arranged in such a way that sitting still or standing for long periods is minimized.

All employees who may work in cold areas shall be trained in the following subject areas and in accordance with this procedure:

- Proper first aid treatment
- Proper clothing practices
- Proper eating and drinking habits
- Recognition of impending adverse health effects
- Safe work practices
- Recognition of hypothermia signs and symptoms
- Emergency response and means to summon emergency medical assistance

F. **Decontamination Procedures:**

1. Personnel:

_____

2. Sampling Apparatus:

_____

3. Heavy Equipment:

_____

4. Level 'C' Decontamination Stations (in order from exclusion zone to support zone):

a) Equipment drop
b) Wash and rinse outer garment, boots, and gloves
c) Remove outer boots and gloves
d) Change respirator cartridges (if returning to exclusion zone)
e) Remove inner gloves and outer garment
f) Remove respirator
g) Clean hands and face

5. The following equipment will be made available, or equivalent.

- emergency eyewash,
- soap/detergent solution and H_2O rinse (via Hudson-type sprayers),
- soap gel or disposable wipes,
- disposable towels,
- plastic sheeting,
- cleaning brushes and tubs.

G. General Procedures:

- The Utility Clearance Log and Map (*Attachments 3 & 4*) will be completed prior to beginning any subsurface work.
- Daily Health and Safety Briefings will be held by the Site Health and Safety Officer (Attachment 7).
- Determine wind direction, establish exclusion zone, and set up decontamination reduction zone and support zone upwind when upgrading to Level 'C' or 'B'.
- Try to remain upwind when collecting samples, venting wells, etc.
- Potable water must always be available at the work site.
- If toilet facilities are not located within a 5-minute walk from the decontamination facilities, either provide a chemical toilet and hand washing facilities or have a vehicle available (not the emergency vehicle) for transport to nearby facilities.
- Provide dust control by spraying soils with water or a surfactant/water solution.
- Use ground fault circuit interrupters for plug-in electrical devices and extension cords.
- Hearing protection in the form of disposable ear plugs will be worn around heavy equipment, machinery, or when two individuals five feet or less apart need to shout to be heard.
- Be aware of tripping hazards with extension cords, tools, hoses, augers, etc.
- Other: _____

_____

H. Emergency Equipment:

- At least one ABC-type dry chemical fire extinguisher, and
- First Aid Kit.

I. Perimeter Identification and Personal Protective Equipment (PPE):

Complete the table below indicating the type of zone boundaries required for this job. Mark zone boundaries on Site Map, p. iii.

TASK NO.[1]	LEVEL OF PROTECTION REQUIRED (B, C, D; N/A)[2]		ZONE BOUNDARIES REQUIRED (a, b, c, d; N/A)[3]	
	PPE START	PPE UPGRADE	PPE START	PPE UPGRADE
1				
2				
3				
4				
5				
6				
7				

---

1 As identified in Section II, Subpart D.

2 Level B - Self-contained breathing apparatus (SCBA) or supplied-air respirator with an escape bottle, chemically resistant suit.

Level C - Full- or half-face air-purifying respirator, chemically resistant PPE.

Level D - No respiratory protection. Safety glasses, hard hat, steel-toe boots, long-sleeved shirt and pants. Hearing protection, gloves, and other PPE as required.

3 This job will require one or all of the following "zones" or "boundaries" to be established during work.

a. Exclusion Zone - Required when workers within that zone must wear personal protective equipment. (Usually Level B or C.)

b. Contamination Reduction Zone - Required when decontamination of people and equipment leaving the Exclusion Zone is required. (Usually Level B or C.)

c. Support Zone - the location where administrative and other support activities are conducted. (Usually Level B or C.)

d. Work Area Boundary - Excludes non-workers from entering a potentially hazardous environment. (Usually Level B, C, or D.)

VI. CONTINGENCY PLAN

A. **Injury or Illness:**

If an injury or illness occurs, take the following action:

- Get First Aid for the person immediately.
- Notify the Site Health and Safety Officer. The Site Health and Safety Officer is responsible for immediately notifying the Project Manager, and preparing and submitting an Injury/Illness Incident Report (Attachment 9) to the Health and Safety Director (HSD) within 24 hours, as well as notifying the employee's supervisor and Principal-in-Charge. If a subcontractor employee is injured, the Subcontractor Field Supervisor will also complete their own injury/illness investigation and submit a copy of their report to the *SECOR* HSD as well.
- The Site Health and Safety Officer will assume charge during a medical emergency.

B. **Site Incident:**

If an incident occurs, take the following action:

- Notify the SHSO immediately. The SHSO is responsible for immediately notifying the Project Manager, and preparing and submitting a Site Incident Report (Attachment 10) to the HSD within 24 hours.

C. **Local Emergency and Project Telephone Numbers** (See p. ii)

D. **Emergency Routes** (Also see Hospital Location Map - p. i):

1. Route from on-site work area to off-site property: _____
_____
_____
_____

2. Route from off-site property to hospital: _____
_____
_____
_____

CLIENT - CITY, STATE

SECOR Project No._____

(ATTACHMENT 1)

SECOR

EMPLOYEE TRAINING AND MEDICAL CLEARANCE

Responsibility	Name	Certification Dates					
		40-Hour HAZWOPER	8-Hour HAZWOPER Refresher	8-Hour HAZWOPER Supervisor*	First Aid/ CPR*	Medical Clearance	Other
Site Health and Safety Officer							
Other Field Staff							

*Health and Safety Officer at a minimum must have this training.

CLIENT - CITY, STATE *SECOR* Project No._____

(ATTACHMENT 2)

SECOR

SUBCONTRACTOR TRAINING AND MEDICAL CLEARANCE RECORD

Subcontractor:_____

Address:_____

Employees Assigned to Project:_____

_____

I certify the above employees assigned to this project have received training, medical clearance, and respirator fit-testing according to the Health and Safety Plan and the Occupational Safety and Health Administration Standard on Hazardous Waste Operations and Emergency Response (29 CFR 1910.120). If any of these employees are injured, I will submit an injury report to the *SECOR* Health and Safety Director within 24 hours.

_____ _____

Name Signature

_____ _____

Title* Date

*Subcontractor Supervisor or Manager only.

CLIENT - CITY, STATE

SECOR Project No._____

(ATTACHMENT 3)

SECOR

UTILITY CLEARANCE LOG

Date: _____

"One-call" confirmation number and date contacted: _____

"One-call" expiration date: _____

Subcontractor locating firm and invoice number: _____

Facility contact person & telephone number: _____

Facility drawings reviewed: _____

Verbal/written sign-off of clearance by facility contact: _____

Pressurized lines/shut-off valves identified:* _____

Underground utilities/lines identified:* _____

_____

Underground utilities/lines marked on-site by: _____

_____

Overhead utilities/lines identified:* _____

Overhead utilities/marked on-site by: _____

*Mark on copy of facility drawing or include in site sketch (Attachment 5).

Clearance contact:

_____	_____	_____
Name (SECOR employee only)	Signature	Date

Clearance Reviewed by:

_____	_____	_____
Name (SECOR Project Manager)	Signature	Date

C ENT - CITY, STATE *SECOR* Project No._____

(ATTACHMENT 4)

SECOR

UTILITY CLEARANCE MAP

CLIENT - CITY, STATE

SECOR Project No._____

(ATTACHMENT 5)

SECOR

AIR MONITORING EQUIPMENT CALIBRATION/CHECK LOG

DATE	INSTRUMENT/ MODEL NO.	SERIAL NO.	BATTERY CHECK OK?	ZERO ADJUST OK?	CALIBRATION GAS (PPM)	READING (PPM)	LEAK CHECK (Colorimetric Tube Pump)	PERFORMED BY	COMMENTS

Rev. 2/15/99

CLIENT - CITY, STATE

SECOR Project No._____

(ATTACHMENT 6)

SECOR

AIR MONITORING LOG*

DATE	TIME	LOCATION	SOURCE/AREA/ BREATHING ZONE	INSTRUMENT	CONCENTRATION/UNITS	SAMPLED BY

***Notify the Health & Safety Coordinator or Corporate Health and Safety immediately if a PEL, TLV, or other limit is exceeded.**

CLIENT - CITY, STATE

SECOR Project No._____

(ATTACHMENT 7)

SECOR

DAILY HEALTH AND SAFETY BRIEFING LOG

Date:_____

Start Time:_____

Subjects Discussed:_____

_____

_____

_____

_____

Attendees:

Print Name	Signature
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Meeting Conducted by:_____ _____

Name (Site Health and Safety Officer) Signature

CLIENT - CITY, STATE

SECOR Project No._____

(ATTACHMENT 8)

SECOR

HEALTH AND SAFETY PLAN ACKNOWLEDGEMENT AND AGREEMENT FORM

(All *SECOR* and subcontractor personnel must sign.)

I acknowledge I have reviewed a copy of the Health and Safety Plan for this project, understand it, and agree to comply with all of its provisions. I also understand I could be prohibited by the Site Health and Safety Officer or other *SECOR* personnel from working on this project for not complying with any aspect of this Health and Safety Plan:

Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date

C :NT - CITY, STATE *SECOR* Project No._____

(ATTACHMENT 11)

SECOR

MATERIAL SAFETY DATA SHEETS

(ATTACHMENT 12)

SECOR

EXCAVATION INSPECTION LOG*

DATE	TIME	EXCAVATION OK/NOT OK FOR ENTRY	COMMENTS	COMPETEN PERSON	SIGNATURE

***Excavation will be inspected before the start of work each day, after each rainfall, or more often if soil/work conditions change.**

(ATTACHMENT 13)

SECOR

CONFINED SPACE ENTRY PERMIT
(POST OUTSIDE SPACE)

TO BE COMPLETED BY PROJECT MANAGER

DATE:_____

PROJECT NAME:_____ PROJECT NO:_____

LOCATION OF WORK:_____

HAZARDS IN THIS CONFINED SPACE:_____

DESCRIPTION OF WORK:_____

HAZARDS CREATED BY WORK TO BE DONE:_____

OBSERVER:_____ ENTRY LEADER:_____

EMPLOYEES ASSIGNED:_____

ENTRY DATE:_____ ENTRY TIME:_____ EXIT TIME:_____

OUTSIDE CONTRACTORS WORKING IN AREA:_____

(CIRCLE ONE)

1. Have all employees who will enter this space or act as standby received the following approvals and training:

Yes No a. Medical clearance within the past year.

Yes No b. Training in confined space entry.

Yes No c. Job emergency procedures have been reviewed with all employees involved.

Yes No d. Completed rescue drill for this type confined space.

2. Equipment identified by checks (√) in boxes will be available at entrance for emergencies. Equipment identified by (X) in boxes will be used by personnel in space.

- ☐ ☐ 1. 30-min SCBA
- ☐ ☐ 2. 15-min SCBA
- ☐ ☐ 3. Other Respirator _____
- ☐ ☐ 4. 2-way Radios
- ☐ ☐ 5. Tether - Life lines
- ☐ ☐ 6. Harness - Safety belt
- ☐ ☐ 7. Wristlets
- ☐ ☐ 8. Fall device for tether
- ☐ ☐ 9. Rolling body board (creeper)
- ☐ ☐ 10. Ladder
- ☐ ☐ 11. Ladder extensions
- ☐ ☐ 12. Barricades for all openings
- ☐ ☐ 13. Tripod or other lifting device
- ☐ ☐ 14. Opening device for covers
- ☐ ☐ 15. Device to lock covers open
- ☐ ☐ 16. Fresh air blower and hose
- ☐ ☐ 17. LEL-0_2 monitor-alarm
- ☐ ☐ 18. Toxic gas colorimetric tubes
- ☐ ☐ 19. Toxic gas air monitor
- ☐ ☐ 20. Hard hats
- ☐ ☐ 21. Safety shoes
- ☐ ☐ 22. Safety glasses
- ☐ ☐ 23. Full face shields
- ☐ ☐ 24. Chemical protective arm covers
- ☐ ☐ 25. Full chemical protective suit
- ☐ ☐ 26. Chemical protective gloves
- ☐ ☐ 27. Chemical protective boots
- ☐ ☐ 28. Emergency lights/Flashlights
- ☐ ☐ 29. Fire extinguisher
- ☐ ☐ 30. Pre-entry H&S Briefing
- ☐ ☐ 31. Stand-by employee(s)

(ATTACHMENT 13)

CONFINED SPACE ENTRY PERMIT
(POST OUTSIDE SPACE)

Date: Project Name: Project No.:

3. All lines that could discharge contaminants into the space have been/will be blanked off or line disconnected and pumping means locked out and tagged.
Yes No N/A

4. Space has been/will be cleaned of any toxic residue or atmosphere by _____
Yes No N/A

5. Moving machinery has been/will be locked out and immobilized.
Yes No N/A

6. Entry and exit to the space are provided by _____
Yes No N/A

7. Will work to be done in the space introduce contaminants to the space?
Yes No N/A

8. What is capacity of blowers to be used in cubic feet per minute? _____

9. Have all affected departments been notified of service interruption?
Yes No N/A

10. Atmospheric gas tests will be done by _____
Readings:
Oxygen _____ Flammability % _____ Toxic Gas _____
(Not <20% or >22%) (LEL <10%)
(<_____ppm)

11. Will continuous monitoring device be used? Yes No Type_____.

12. Calibration date of meters used in items 10 and 11.
a. _____ b. _____ c._____

13. Emergency communication means: 2-Way ☐ Telephone ☐ Other ☐

I have inspected the space to enter, the safety equipment that will be used, and approve employees' entry into the confined space.

Signed: _____
Project Manager

_____
Site Health and Safety Officer

Approved: _____
Corporate Health and Safety

Incident Investigation/ Near-Miss Investigation Report

INCIDENT TYPE | **Date of Incident:**

☐ Fatality	☐ Industrial Non-Recordable	☐ Spill/Leak	☐ General Liability
☐ Lost Workday	☐ Non-Industrial	☐ Product Integrity	☐ Criminal Activity
☐ LW/ Restricted Duty	☐ Off-the-Job Injury	☐ Equipment	☐ Notice of Violation
☐ OSHA Medical or Illness w/o LW	☐ MVA	☐ Business Interruption	☐ Near Miss
☐ First Aid	☐ Fire	(TO BE COMPLETED BY HR)	

This report must be completed by the employee's supervisor or Site Health and Safety Officer immediately upon learning of the incident. The completed report must be reviewed and signed by the Principal-In-Charge and e-mailed or faxed to the Vice President of Human Resources, Corporate Health and Safety and the Health & Safety Coordinator within 24 hours of the incident, even if employee is not available to review and sign. Employee or employee's doctor must submit a copy of the doctor's report to Human Resources within 24 hours of the initial exam and any subsequent exams. Phone: 619-718-9429, Fax: 619-296-2006, E-Mail: mharris@secor.com.

EMPLOYER

Company Name:

Work Location Address where incident occurred: | Project Name:

EMPLOYEE

Name: | SSN: | Birthdate:

Employment Status: ☐ Full-Time ☐ Part-Time ☐ Hourly-As-Needed | How long in present job?

INJURY OR ILLNESS INFO

Where did incident / near miss occur? (number, street, city, state, zip):

County: | On Employer's premises? ☐ Yes ☐ No

Specific activity the employee was engaged in when the incident / near miss occurred:

All equipment materials, or chemicals the employee was using when the incident / near miss occurred (e.g., the machine employee struck against or which struck employee; the vapor inhaled or material swallowed; what the employee was lifting, pulling, etc.):

Describe the specific injury or illness (e.g., cut, strain, fracture, skin rash, etc.):

Body part(s) affected (e.g., back, left wrist, right eye, etc.):

Name and address of Health Care Provider (e.g., physician or clinic): | Phone No.:

If hospitalized, name and address of hospital: | Phone No.:

Date of injury or onset of illness(MM/DD/YYYY) / / | Time of event or exposure: ☐ AM ☐ PM

Time employee began work: ☐ AM ☐ PM | Did employee lose at least one full shift's work? ☐ No ☐ Yes, 1st date absent (MM/DD/YYYY) / /

Has employee returned to work? ☐ Regular work ☐ Restricted work ☐ No, still off work ☐ Yes, date returned (MM/DD/YYYY) / /

Did employee die? ☐ No ☐ Yes, date (MM/DD/YYYY) / /

Employer notified of incident / near miss: (MM/DD/YYYY) / /

To whom reported:

Other workers injured/made ill in this event? ☐ Yes ☐ No

Description of Incident / Near Miss: (Describe fully the incident / near miss events. Tell what happened and how it happened.)

Motor Vehicle Accident (MVA)

	Professional Driver? ☐ Yes ☐ No		
Total Years Driving:	Company Vehicle? ☐ Yes ☐ No	Operation Type:	Accident Situation:
Truck Transportation:	Years with Carrier:	Vehicle Type:	Equipment #:
Accident Location (street, city, state):			
Hazardous Material? ☐ Yes ☐ No	Recordable? ☐ Yes ☐ No	No. of Vehicles Towed	No. of Injuries: / No. of Fatalities:

Spill/Leak/Product Quality

Product Name:		Quantity		Product 2 Name		Quantity	Product 3 Name		Quantity	
Agency Notifications								

Cost of Incident: $

Third Party Incidents

Name of Owner		Address		Telephone	
Description of Damage:					
Witness Name		Address		Telephone	
Witness Name		Address		Telephone	

Root Cause and Contributing Factors: Conclusion (Describe in Detail Why Incident / Near Miss Occurred)

1
2
3
4
5

Root Cause(s) Analysis (RCA):

1. Lack of skill or knowledge
2. Lack of or inadequate operational procedures or work standards
3. Inadequate communication of expectations regarding procedures or work standards
4. Inadequate tools or equipment
5. Correct way takes more time and/or requires more effort
6. Short-cutting standard procedures is positively reinforced or tolerated
7. Person thinks there is no personal benefit to always doing the job according to standards
8. Uncontrollable

#	RCA #	Solution(s): How to Prevent Incident / Near Miss From Reoccurring	Person Responsible	Due Date	Closure Date

Investigation Team Members

Name	Job Title	Date

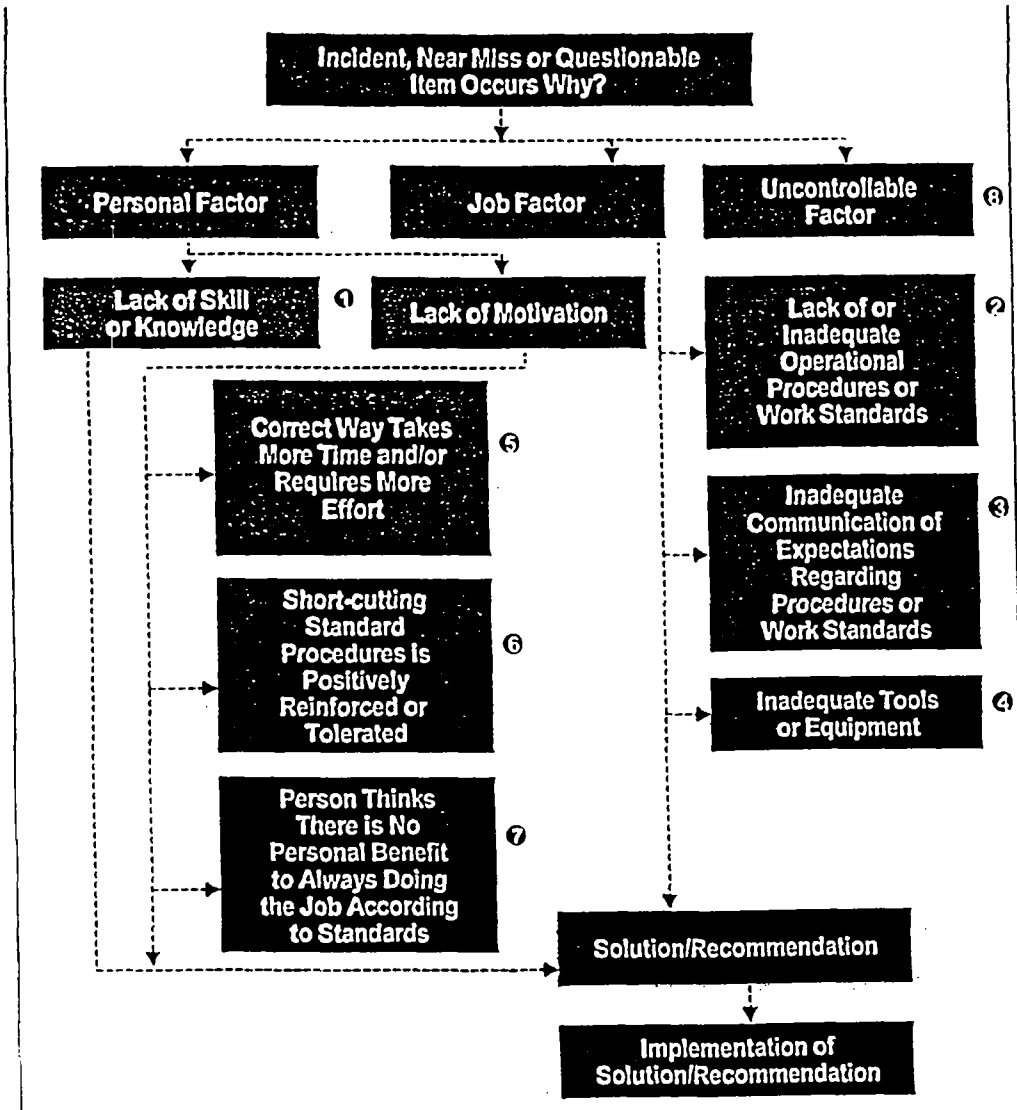
Results of Solution Verification and Validation

Reviewed By

	Job Title	Date
	First Line Supervisor	
	Other (name)	

Root Cause Analysis Flow Chart

How to determine the Root Cause(s) of an Incident, Near Miss, or Questionable Behavior and Develop a Solution



Safe Performance Self Assessment

Before Beginning Any Activity/Task/Job, After an Incident or Near Miss, any Unusual Circumstances:

ASSESS the risk!
What could go wrong? What is the worst thing that could happen if something does go wrong?

ANALYZE how to reduce the risk!
Do I have all the necessary *Training* and *Knowledge* to do this job safely?
Do I have all the proper *Tools* and *Personal* protective equipment?

ACT to ensure safe operations!
Take necessary *Action* to ensure the job is done safely!
Follow written procedures! Ask for assistance, if needed!

*For Everyone * Every Day * All the Time*

INJURY/ILLNESS REPORT

Incident Investigation/ Near-Miss Investigation Report

INCIDENT TYPE | **Date of Incident:**

☐ Fatality	☐ Industrial Non-Recordable	☐ Spill/Leak	☐ General Liability
☐ Lost Work day	☐ Non-Industrial	☐ Product Integrity	☐ Criminal Activity
☐ LW Restricted Duty	☐ Off-the-Job Injury	☐ Equipment	☐ Notice of Violation
☐ OSHA Medical or Illness w/o LW	☐ MVA	☐ Business Interruption	☐ Near Miss
☐ First Aid	☐ Fire	(TO BE COMPLETED BY HR)	

This report must be completed by the employee's supervisor or Site Health and Safety Officer immediately upon learning of the incident. The completed report must be reviewed and signed by the Principal-In-Charge and e-mailed or faxed to the Vice President of Human Resources, Corporate Health and Safety and the Health & Safety Coordinator within 24 hours of the incident, even if employee is not available to review and sign. Employee or employee's doctor must submit a copy of the doctor's report to Human Resources within 24 hours of the initial exam and any subsequent exams. Phone: 619-718-9429, Fax: 619-296-2006, E-Mail: mharris@secor.com.

EMPLOYER

Company Name:

Work Location Address where incident occurred: | Project Name:

EMPLOYEE

Name: | SSN: | Birthdate:

Employment Status: ☐ Full-Time ☐ Part-Time ☐ Hourly-As-Needed | How long in present job?

INJURY OR ILLNESS INFO

Where did incident / near miss occur? (number, street, city, state, zip):

County: | On Employer's premises? ☐ Yes ☐ No

Specific activity the employee was engaged in when the incident / near miss occurred:

All equipment, materials, or chemicals the employee was using when the incident / near miss occurred (e.g., the machine employee struck against or which struck employee; the vapor inhaled or material swallowed; what the employee was lifting, pulling, etc.):

Describe the specific injury or illness (e.g., cut, strain, fracture, skin rash, etc.):

Body part(s) affected (e.g., back, left wrist, right eye, etc.):

Name and address of Health Care Provider (e.g., physician or clinic): | Phone No.:

If hospitalized, name and address of hospital: | Phone No.:

Date of injury or onset of illness(MM/DD/YYYY) / / | Time of event or exposure: ☐ AM ☐ PM

Time employee began work: ☐ AM ☐ PM | Did employee lose at least one full shift's work? ☐ No ☐ Yes, 1st date absent (MM/DD/YYYY) / /

Has employee returned to work? ☐ Regular work ☐ Restricted work ☐ No, still off work ☐ Yes, date returned (MM/DD/YYYY) / /

Did employee die? ☐ No ☐ Yes, date (MM/DD/YYYY) / /

Employer notified of incident / near miss: (MM/DD/YYYY) / /

To whom reported:

Other workers injured/made ill in this event? ☐ Yes ☐ No

Description of Incident / Near Miss: (Describe fully the incident / near miss events. Tell what happened and how it happened.)

Motor Vehicle Accident (MVA)

	Professional Driver? ☐ Yes ☐ No		
Total Years Driving:	Company Vehicle? ☐ Yes ☐ No	Operation Type:	Accident Situation:
Truck Transportation:	Years with Carrier:	Vehicle Type:	Equipment #:
Accident Location (street, city, state):			
Hazardous Material? ☐ Yes ☐ No	Recordable? ☐ Yes ☐ No	No. of Vehicles Towed	No. of Injuries: / No. of Fatalities:

Spill/Leak/Product Quality

Product Name		Quantity	Product 2 Name		Quantity	Product 3 Name	Quantity
Agency Notifications							

Cost of Incident: $

Third Party Incidents

Name of Owner		Address		Telephone	
Description of Damage:					
Witness Name:		Address		Telephone	
Witness Name:		Address		Telephone	

Root Cause and Contributing Factors: Conclusion (Describe In Detail Why Incident / Near Miss Occurred)

1
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3. Inadequate communication of expectations regarding procedures or work standards
4. Inadequate tools or equipment
5. Correct way takes more time and/or requires more effort
6. Short-cutting standard procedures is positively reinforced or tolerated
7. Person thinks there is no personal benefit to always doing the job according to standards
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Name	Job Title	Date

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Reviewed By

	Job Title	Date
	First Line Supervisor	
	Other (name)	

Root Cause Analysis Flow Chart

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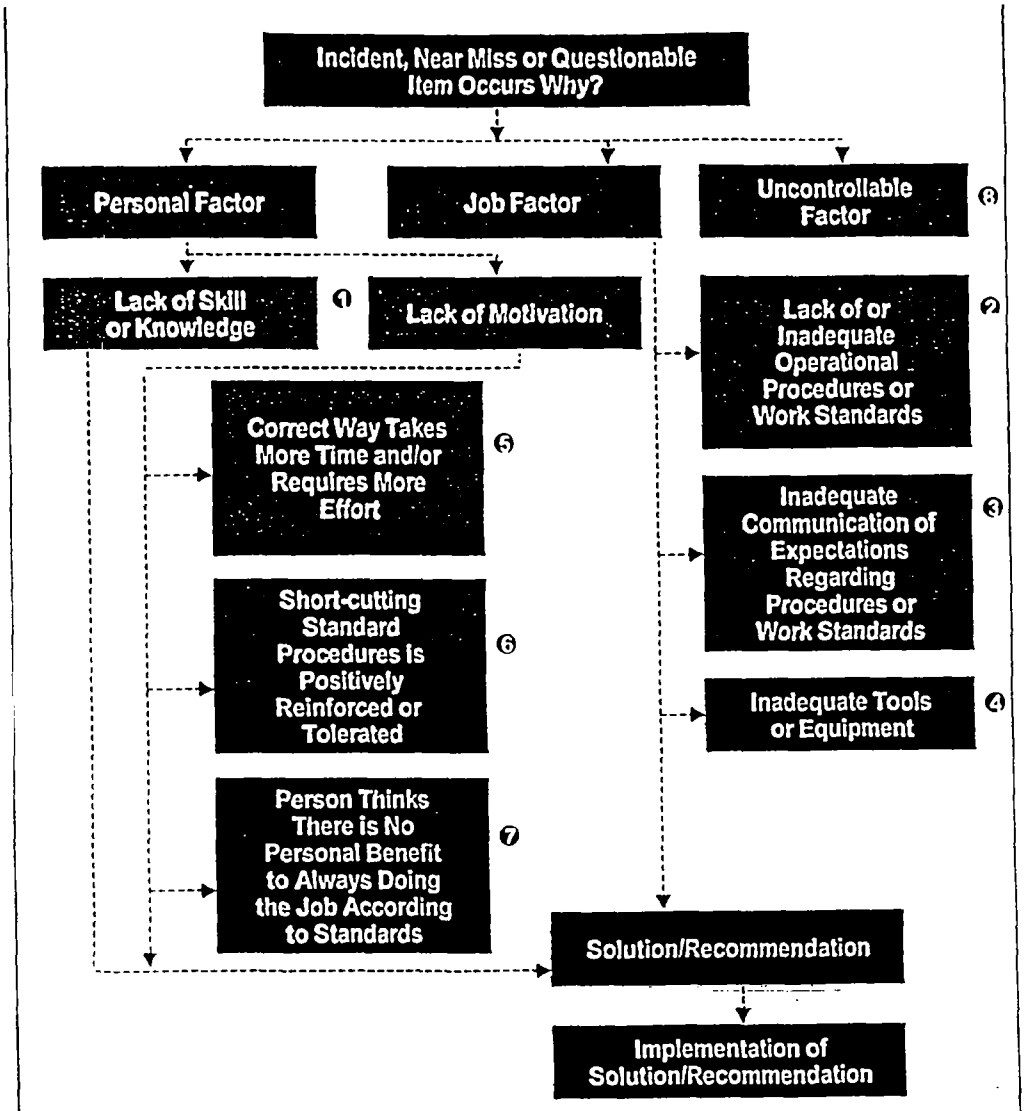

Safe Performance Self Assessment

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ASSESS the risk!
What could go wrong? What is the worst thing that could happen if something does go wrong?

ANALYZE how to reduce the risk!
Do I have all the necessary *Training* and *Knowledge* to do this job safely?
Do I have all the proper *Tools* and *Personal* protective equipment?

ACT to ensure safe operations!
Take necessary *Action* to ensure the job is done safely!
Follow written procedures! Ask for assistance, if needed!

*For Everyone * Every Day * All the Time*

HAZARDOUS WASTE OPERATIONS TRAINING VENDOR REQUIREMENTS

SECOR
HAZARDOUS WASTE OPERATIONS (HAZWOPER) TRAINING VENDOR REQUIREMENTS

_____ will provide the _____ office of *SECOR*
(Name of Organization) (Office Location)

International Incorporated with OSHA 40-hour HAZWOPER Training on _____.
(Dates)

_____ will include the following instruction and reference
(Name of Organization)

material on:

- Review of 29CFR1910.120 and the core elements of an occupational safety and health program;
- Medical Surveillance as outlined in 29CFR1910.120(f);
- Content of a Health and Safety Plan as outlined in 29CFR1910.120(b);
- Emergency Response Plan and Procedures as outlined in 29CFR1910.120(l);
- Hazard Communication as outlined in 29CFR1910.1200;
- Injury, Illness and Prevention Plans as defined by California Code of Regulations, Title 8, Section 3203;
- Lockout-Tagout Procedures as defined in 29CFR1910.147;
- Adequate illumination for hazardous waste operations;
- Sanitation recommendations and equipment;
- Types of potential exposure to chemical, biological and radiological hazards; types of human responses to these hazards and recognition of those responses; principles of toxicology and information about acute and chronic health hazards and health and safety considerations of new technologies;
- Fundamentals of chemical hazards including vapor pressure, boiling points, flash points, pH and associated physical and chemical properties;
- Fire and explosion hazards from chemicals;
- General safety hazards including electrical hazards, powered equipment hazards, motor vehicle hazards, walking-working surface hazards, excavation hazards and heat/cold stress recognition and prevention;
- Confined space recognition and countermeasures as defined in 29CFR1910.146;
- Risk minimization from site hazards;

- Safe use of engineering controls, equipment and new relevant safety technology;
- Air monitoring equipment review and demonstration as requested by client office;
- Sampling and handling of containers, drums and special wastes;
- Spill control;
- Safe use of material handling equipment;
- Preparation and handling of containers for shipping and transport;
- Communication while wearing personal protective equipment;
- Selection, use, maintenance and limitations of personal protective equipment and hardware;
- Demonstration and hands-on training including EPA Levels A, B and C and appropriate decontamination lines; and
- Demonstration and hands-on training on donning and doffing of personal protective equipment.

The training vendor will proctor a written examination to course candidates at the conclusion of the training of not less than 50 questions. Additionally, the training vendor will set a minimum pass criteria for the exam and subsequently "fail" any individual who does not meet or exceed the previously set criteria.

I, _____, as a representative of _____ agree to comply with
(Print Name) (Name of Organization)

the above conditions for providing OSHA 40-hour HAZWOPER training for *SECOR* International Inc.

_____ _____ _____
Signature Title Date

REVIEWED BY

_____ as a representative of *SECOR* International Inc.
(Print Name)

_____ _____ _____
Signature *Title Date

*This form must be signed by a Principal-in Charge or Health & Safety Coordinator.
NOTE: The Health & Safety Coordinator will maintain a copy in the local health and safety file.

CORPORATE HEALTH AND SAFETY MEMORANDUMS

APPENDIX D

Corporate Policy and Procedure Directives

SECOR

Policy and Procedure Directive	Number:	B.3
Title:	Date:	October 1, 2001
RECORD KEEPING AND RETENTION	Page:	1 of 4

Approval:

James L. Vais, President and CEO

1. SCOPE

This policy applies to all employees and locations of ***SECOR***.

2. POLICY

It is ***SECOR's*** policy to maintain project and administrative files to support the needs of our clients and to provide protection for ***SECOR*** should there be a need to access the information in future years. Good record keeping and retention is an integral part of our overall Quality Assurance Program. Each ***SECOR*** office, including our Corporate offices, must maintain a filing system that includes files for project and administrative information. The local office where the project was performed will retain most of the project records. The Corporate Contracts Department will also maintain a critical portion of the file for each project.

3. PROCEDURE

At *SECOR*, product quality is ultimately the responsibility of each of our Principals-in-Charge (PICs). PICs are supported by competent Office and Project Managers who are responsible for implementing project and administrative record-keeping procedures that are supportive of the overall objectives of the office and the Company. Project record- keeping requirements embrace all management, financial and technical aspects of a project from project inception to close out. Also, Corporate and office administrative record keeping is required for areas such as Human Resources, Health and Safety, Contracts, Purchasing and Finance. The procedures documented herein provide guidance relative to record keeping at *SECOR*.

3.1 Types of Files

Two types of files shall be maintained at each office: project and administrative. The general content of the files is presented in Table 1 for projects and Table 2 for administrative data. The location where the file is kept (office or Corporate) is also noted in the Tables. This is not an exhaustive list of requirements, but is considered to be a representative one. PICs and Department Managers may want to add their own record-keeping requirements and implement procedures tailored to the needs of their clients and office environment.

Approval:

James L. Vais, President and CEO

3.1.1 Project Files

Table 1 summarizes project file requirements in four general areas: project management, project correspondence, data management and reports. The project filing system must contain all records for active projects identified by the ***SECOR*** project number. The Project Manager will maintain the working or active project files. A separate file for each project that contains the items deemed necessary by the PIC and Office Manager is also to be kept in the office central files. Upon close out, all project files are archived in the central files at the office location where the project was performed.

Procedures for distribution of project data are left to the PIC and Project Manager with coordination by the Director of Corporate Contracts. Original proposals and data for the project are contained in the project files in the local office (final report, field data, computer runs, data analyses, construction drawings, etc.). Original copies of all contract documents are contained in the Corporate Contracts files, with copies at the office location (Contracts, Subcontracts, MSAs, Consultant Agreements, Purchase Orders, etc.).

Although ***SECOR*** does not require that project files be kept in prescribed ways, it is required that the project information and records indicated in Table 1 be kept to protect ***SECOR*** and its clients. Advice concerning good record-keeping practices may be obtained from other PICs, Office Managers or Corporate.

3.1.2 Administrative Files

Administrative files contain general information related to Human Resources, Contracts, Health and Safety, Finance, Marketing, and Policies and Procedures. Table 2 presents requirements for administrative record keeping and indicates whether the information is stored at a local or Corporate office.

Administrative data will generally be stored in central files at each office or department location. An effective central filing system requires a set of simple procedures, executed by dedicated employees and supported by management. ***SECOR*** does not require that administrative or central files be set up or maintained in any specific way. However, we do require that the information indicated in Table

Approval:

James L. Vais, President and CEO

to be filed and retained.

3.2 Retention of Records

The length of record retention shall conform to applicable regulatory and contractual requirements whenever they exist. Otherwise, retention time after completion of a project shall be a minimum of ten (10) years. At the end of this period, the records should be reviewed to determine if they must be kept or can be destroyed.

In some cases, ***SECOR*** may transfer project records, along with retention responsibilities, to the client. In this case, written evidence of that transfer to and agreement with the client must be obtained by ***SECOR*** for the life of the records. Even in this case, it will be desirable for ***SECOR*** to archive most of the records for the protection of ***SECOR***. For this situation, the Director of Corporate Contracts and the PIC will decide which records require archiving. Also, project records will be released to third parties only with written authorization from the original client or from its successors.

On-site central files will contain current and recent (e.g., less than one year) records, with off-site facilities used for longer-term storage. Each office will maintain a record management system suitable for the volume and type of records it generates to fulfill the retention and retrieveability requirements of this PPD. Periodically, the PIC and Director of Corporate Contracts will arrange for an audit of the files at each office.

3.3 General Procedural Guidance

Some general guidance regarding handling and filing documentation in the office environment is provided below:

* Use a central files sign-out/sign-in procedure to track the location of documents. This will facilitate location of key documents on short notice and will help prevent documents from being permanently removed from the files.

* Store final reports and other computer-generated data on electronic media, where appropriate, and employ write protection for the media.

Approval:

James L. Vais, President and CEO

* Institute procedures to ensure that the technical personnel in the office work within the administrative support system and that documents get to the appropriate personnel for archiving.

TABLE 1

PROJECT RECORD KEEPING REQUIREMENTS

	TYPE OF FILE	LOCATION	
		OFFICE	CORPORATE
1.1	Project Management Data		
	Proposal (+pre-award correspondence)	X	
	Project Set-up File	X	X
	Work Plans (H&S, QA, SAPS, etc.)	X	
	Contract Documents	X	X
	Project Deliverables	X	
	Subcontracts, P.O.'s, Vendor Agreements	X	X
	Financial Data (Job Status, Invoices)	X	X
1.2	Correspondence		
	Client Correspondence	X	
	Internal Correspondence	X	
	Regulatory Correspondence	X	
	Meeting Notes	X	
	Telephone Notes	X	
1.3	Data Management		
	Field Data	X	
	Laboratory Data	X	
	Calculations & Drawings	X	
1.4	Reports		
	Draft/Final Reports	X	
	Original Dwgs, Illus. & Tables	X	
	Original Copies of Field Data	X	
	Final Computer Runs & Analyses	X	
	Appendices	X	
	Peer Review Records	X	

TABLE 2

ADMINISTRATIVE RECORD KEEPING REQUIREMENTS

	TYPE OF FILE	LOCATION	
		OFFICE	CORPORATE
2.1	Personnel		
	Employment		X
	Benefits (Health, Vacation, 401(k))		X
	EEO		X
	Performance Reviews	X	X
	Compensation		X
2.2	Contracts		
	Client Lists and Data	X	X
	Originals of Long & Short Form Contracts		X
	Master Service Agreements	X	
	Bid & Performance Bonds	X	X
	Vendor Agreements (Preferred, Other)	X	X
2.3	Health & Safety		
	Corporate H&S Program	X	X
	H&S Plans for Projects	X	
	Training Status & Requirements	X	X
	Equipment List by Office	X	X
2.4	Financial		
	Accounting Data		X
	Property & Equipment	X	X
	Audit Support		X
	Bank Agreements		X
	Insurance Policies		X
	Software License Status	X	X
2.5	General		
	Correspondence	X	X
	Business Development Data	X	X
	Policy & Procedure Directives	X	X
	Guidance Documents	X	X

APPENDIX E

Typical Subcontract Issued by SECOR

SECOR *International Incorporated*

PURCHASE ORDER

PAGE _____ OF _____

PURCHASE ORDER

NO. 013-01376

JOB NO. _____

TASK NO. _____

Purchase Order No., Job No and Task No. must appear on all invoices.

ISSUED BY: _____

OFFICE NO.: _____

PHONE: _____

VENDOR

DATE ORDERED	DATE REQUIRED AT DESTINATION
SHIP VIA	F.O.B.
FREIGHT TERMS	PAYMENT TERMS

PURCHASE TYPE ☐ STANDARD ☐ SERVICE ☐ BLANKET

PLACED BY ☐ MAIL ☐ FAX ☐ PHONE

BILL TO

SHIP TO

LN. IT.	QTY.	U.M.	PART NO. / DESCRIPTION	UNIT PRICE	EXTENDED PRICE

COMMENTS:

TOTAL

ACKNOWLEDGEMENT REQUIRED ☐ YES ☐ NO

SUPPLIER ACKNOWLEDGEMENT / ACCEPTANCE

THE FOLLOWING DOCUMENTS ARE ATTACHED AND MADE A PART OF THIS PURCHASE ORDER: ☐ Special Conditions - Form C-1 ☐ Other _____

THE TERMS AND CONDITIONS PRINTED ON THE BACK, AND THOSE CONTAINED IN ANY ATTACHMENTS, FORM A PART OF THIS ORDER. *ACCEPTANCE IS EXPRESSLY LIMITED TO ACCEPTANCE OF THE TERMS AND CONDITIONS OF THIS ORDER.*

GOODS AND SERVICES COVERED BY THIS ORDER MAY BE SUBJECT TO SALES TAX UNLESS OTHERWISE SPECIFIED.

By _____

its _____

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REV. 7/98

Supplier/Contractor - white Office - blue SECOR Contracts - green SECOR Accounting - pink

General Conditions For Purchases

1. COMPLETE AGREEMENT: This Order, including these general conditions and any specifications or attachments hereto, constitutes the sole and entire agreement between the parties. The Seller's quotation is incorporated in and made a part of this Order only to the extent of specifying the nature and description of the goods and services ordered and then only to the extent that such items are consistent with the other terms of this Order. No other terms or conditions shall be binding upon Buyer unless accepted by it in writing. This Order becomes a binding contract on the terms and conditions set forth herein when it is accepted by Seller either by written acknowledgment of this Order or the commencement of performance hereof.

2. CHANGES - TERMINATIONS:

(a) Buyer may, by written change order, make changes in the specifications or drawings or increase or decrease the quantities originally ordered. If any such change affects the amount due or the time of performance hereunder, an equitable adjustment shall be made;

(b) In the event of cancellation, substantial modification, or delay of the project or program for which these goods and services are ordered, Buyer may terminate this Order by written notice as to all or any part of the goods and services not shipped prior to receipt by Seller of said notice. As to goods which are standard manufactured items Buyer's only obligation shall be to pay for goods shipped to Buyer prior to receipt by Seller of notice of termination. As to goods specially manufactured for Buyer, Seller, shall stop all work on receipt of notice of termination, unless otherwise directed by Buyer, and Buyer shall pay reasonable costs incurred by Seller directly connected with this Order including costs and cancellation charges actually incurred by Seller under subcontracts, and when necessary to avoid undue hardship, an allowance for overhead and profit on such costs incurred. Such payment shall not exceed the total price of this Order and shall be reduced by any refunds or salvage values available to Seller and the aggregate amount of any previous payments to Seller. Upon such payment, title to material and goods shall pass to Buyer. Buyer reserves the right to audit Seller's computation of any payments claimed under this clause.

(c) Termination for Default: In the event of any termination under this Order, Buyer shall have the right to complete the terminated work by whatever method Buyer may deem expedient, including without limitation, by employing another contractor, or completing the work themselves. In the event the amount of such expenses and administrative charge exceeds any amount due to Seller under the Order, Seller and its sureties shall be liable for and, upon notice from Buyer, shall pay promptly the amount of such excess to Buyer.

3. PRICE AND PAYMENT: The price herein specified shall, unless otherwise expressly stated, include all sales, use and excise taxes and dates which either party is required to pay with respect to the sale of the goods covered by this Order, and shall include all charges for packing and loading. Any taxes, freight and duties shall be shown as separate items on this Order and on invoices. Unless otherwise expressly stated, payment will be made for satisfactory work within two weeks of Buyer's receipt of payment from its client, but not before 75 days from receipt of Seller's invoice. The time for payment of invoices, or for accepting any discounts offered, shall run only from the date correct invoices are received by Buyer.

4. WARRANTIES - GUARANTEES: Seller warrants that the goods provided and services performed shall be free from defects in design, material, workmanship and title, shall conform in all respects to the terms of this Order, shall be fit and suitable and perform satisfactorily for the purposes and under the conditions made known by Buyer or reasonably to be inferred, and shall be at least equal to nationally recognized standard or codes or of the best quality, if no quality is specified. Materials or services performed found to be defective within one year shall be replaced or repaired free of charge within a reasonable time after written notice from Buyer. This is in addition to any warranty or service guarantee offered by Seller or implied or provided by law. Materials or services used to correct nonconformity shall be similarly warranted for one year, except as otherwise provided in this Order. Seller's liability hereunder shall extend to all damages proximately caused by the breach of any of the foregoing warranties or guarantees, but such liability shall in no event include loss of profit or loss of use.

5. SUBCONTRACTORS: Seller shall not subcontract the goods or services required hereunder in whole or in part without the prior written consent of Buyer. Seller agrees that, prior to or within 14 calendar days of its receipt of payment of its invoice from Buyer, Seller shall pay its lower tier subcontractors'/suppliers' costs for all work performed or materials furnished by them and included in Seller's invoice. On each invoice submitted to Buyer, Seller shall include the following certification:

"All (Seller's legal name)'s subcontractors/suppliers were paid within 14 days after payment was received from SECOR for our previous invoice."

Buyer reserves the right to issue joint checks payable to both the Seller and its subcontractors/suppliers to ensure proper payment. However, this provision in no way creates any contractual or third party beneficiary relationship between Seller's subcontractors/suppliers and Buyer, not does it create any liability or duty of Buyer to Seller's subcontractors/suppliers.

6. DELAYS: Time is of the essence. Seller shall not, however, be liable for delays or failure to ship due to causes beyond its control and not due to its fault or negligence, provided it gives prompt notice of such cause to Buyer. If Seller does not ship as ordered on or before the shipping date shown on the Order, or if Seller shall default in any respect or become insolvent or if a petition in bankruptcy insolvency is filed by or against Seller under any state or federal law, Buyer may terminate this Order or the undelivered part thereof. In addition to Buyer's right to termination as herein provided, Buyer's rights and remedies shall be as provided by law or as otherwise provided herein, and shall, in no event, be limited by terms proposed by Seller or subject to arbitration.

7. NONWAIVER: The (1) failure of Buyer to insist upon strict performance of any of the terms and conditions hereof; or (2) failure or delay to exercise any rights or remedies provided herein or by law; or (3) failure of Buyer to properly notify Seller in the event of breach or in the acceptance of or payment for any goods, or (4) failure of Buyer to approve design of any goods supplied by Seller, shall not release Seller of any of the warranties or obligations of this Order, and shall not be deemed a waiver of any right of Buyer to insist upon strict performance of the Order or any of Buyer's right or remedies. This nonwaiver shall also apply to all orders, regardless of when shipped, received or accepted, and to any prior or subsequent default hereunder. A purported oral modification or revision of this Order by Buyer shall not operate as a waiver of any of the terms of this Order.

8. COMPLIANCE: Seller warrants that all goods and services sold hereunder shall have been produced, sold, delivered and furnished in strict compliance with all applicable laws and regulation, including the Federal Toxic Substances Control Act of 1976, the Federal Occupational Safety and Health Act of 1970, to which they are subject. Seller shall execute and deliver such documents as may be required to effect or to evidence compliance. All laws and regulations required in agreements of this character are hereby incorporated by reference, including but not limited to (a) provisions of Executive Orders 10925, 11141, 11246, 11375 and 11598, as amended and any subsequent executive orders relating to equal opportunity for employment on government contracts and all rules and regulations of the President's Committee on Equal Employment Opportunity, and (b) the Rehabilitation Act of 1973 and the Vietnam Era Veterans Readjustment Assistance Act of 1974 and regulations issued thereunder. If Seller is required by this Order to employ workmen on Buyer's premises, conditions of such employment shall be consistent with Buyer's labor agreements, and shall not interfere with Buyer's operations.

9. APPLICABLE LAW - DEFINITIONS: The definitions of terms used interpretation of this Order and the rights of all parties hereunder shall be construed under and governed by the laws of the State of Washington

10. NO ASSIGNMENT: Any assignment of this Order or of any rights hereunder or hypothecation thereof in any manner in whole or in part, by operation or law or otherwise, without prior written consent of Buyer shall be void.

11. WORK PERFORMED ON PREMISES OF SECOR CLIENTS: If indicated on the face of this order the special conditions attached are a part of the terms and conditions applicable to this Order.

12. DEFAULT: If the event Seller or Buyer defaults in its performance of this Order, the non-defaulting party shall be entitled to payment of its attorney's fees, costs and other expenses related to any action to enforce the terms of this Order, such sums to be paid by the defaulting party.

13. SEVERABILITY: If any provision of this Order is determined by court to be invalid or unenforceable, the remainder of this Order shall remain in full force and effect.

SECOR
International Incorporated

Form C-1
Forming Part of Purchase
Order No. _____

Special Conditions for Subcontractor Performing Work or Services on Owner's Premises

TERMS The term Owner refers to the Client of SECOR for whom services are being performed by SECOR - the buyer of the services described in the purchase order. The term SUBCONTRACTOR refers to the seller described in the purchase order.

FAMILIARITY WITH OWNER'S PREMISES. SUBCONTRACTOR agrees to become familiar with OWNER's premises and operations and to take all reasonable precautions to avoid injury or property damage to SUBCONTRACTOR, OWNER, SECOR, tenants, adjacent landowners and third parties, and to employees, representatives or subcontractors of any of them.

INDEMNITY. SUBCONTRACTOR agrees to indemnify, hold harmless and defend SECOR and any and all of its affiliates, partners, directors, officers agents or employees from and against all loss, injury, damage and legal liability including attorney's fees and other costs of defense arising out of any act, error, omission or breach of any of the terms of this purchase order by SUBCONTRACTOR, its subcontractors, employees or agents in the performance of the Work or Services hereunder, excepting only loss, injury, damage and legal liability as is caused solely by the fault or negligence of SECOR or its employees. SECOR shall also be entitled to payment of its attorney's fees and costs in any action by SECOR to enforce its right to indemnification under the terms of this purchase order.

SUBCONTRACTOR assumes all liability for workers' compensation and employers liability coverage for its own employees.

SUBCONTRACTOR shall be responsible for and shall hold SECOR harmless from loss of or damage to SUBCONTRACTOR's or its subcontractor's construction tools and equipment and rented items which are used or intended for use in performing work, and for any consequential, special or indirect damages, or loss of anticipated profits sustained by SUBCONTRACTOR or its subcontractors, and shall indemnify SECOR for loss or damage to property supplied by SECOR or Client and intended to be incorporated into or used in the construction while in the SUBCONTRACTOR's care, custody or control.

LIENS. SUBCONTRACTOR shall keep Owner's property free from liens arising hereunder. SECOR may withhold any or all payments otherwise due SUBCONTRACTOR until SUBCONTRACTOR submits proof, in form satisfactory to SECOR that all lienable claims have been fully paid or lien rights otherwise discharged.

INSURANCE. Prior to commencement of work, SUBCONTRACTOR shall obtain and maintain in full force and effect during the term thereof, at SUBCONTRACTOR's sole expense, the following insurance coverages upon SUBCONTRACTOR's operations hereunder:
(1) Commercial General Liability, including contractual, products and completed operations, and Stop-Gap Employer's Liability (where applicable), explosion, collapse and underground hazards, with minimum limits of $1,000,000 per occurrence, $1,000,000 aggregate bodily injury and $1,000,000 property damage or combined single limit of $2,000,000.
(2) Comprehensive Automobile Liability covering owned, hired and non-owned vehicles with minimum limits of $1,000,000 per occurrence.
(3) Workers' Compensation or Industrial Accident insurance as required by Law and $500,000 per occurrence employer's liability.
(4) Professional Liability insurance with $1,000,000 per occurrence. (Applicable only for Professional services involving design, site surveys, soil/lab testing and/or construction management.)

SUBCONTRACTOR shall furnish SECOR with Certificates of Insurance evidencing compliance herewith naming SECOR as an additional insured with a waiver of subrogation in favor of SECOR. SUBCONTRACTOR shall require SUBCONTRACTOR's insurance carrier to give SECOR at least thirty (30) days' written notice prior to any change or cancellation of said coverage, either in whole or in part.

SUBCONTRACTORS. None of the work or services to be performed hereunder shall be contracted out by the SUBCONTRACTOR without the express written consent of SECOR.

INDEPENDENT CONTRACTOR. SUBCONTRACTOR shall be an independent contractor and as such shall be responsible at all times for supervision and control of the work hereunder and for the activities of SUBCONTRACTOR and its employees furnished by SUBCONTRACTOR, even though SECOR may offer suggestions or assistance as to the conduct of the work.

INTERFERENCE WITH OPERATIONS. All work or services to be performed hereunder shall be done in such a manner as not to interfere with OWNER's, SECOR's, tenant's or adjacent landowner's operations, and shall at all times be subject to the inspection and approval of SECOR.

CLEAN-UP. Upon completion of the services, SUBCONTRACTOR shall remove all excess materials, tools, scaffolds and rubbish which has accumulated on the premises during performance of such work and leave same in a clean and satisfactory condition.

HAZARDOUS WASTES. The SUBCONTRACTOR shall not cause or permit, and shall take every care to prevent any production, deposit, disposal or spill of hazardous substances during performance of this contract. The SUBCONTRACTOR shall indemnify and hold both the OWNER and SECOR harmless from any claims, costs, damages, fines and attorney's fees and costs, for both defense and for establishing the OWNER'S and SECOR's right of indemnification, arising out of or in any way related to the SUBCONTRACTOR's handling or use of hazardous substances in the course of performance of this contract, including such use and handling performed by any subcontractor acting at the SUBCONTRACTOR's direction. The term 'hazardous substances' shall be as defined by the Superfund Act (Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended) and shall include any similar definition of a substance subject to similar control by state or local law.

INSPECTIONS. If this order requires any part of the work to be tested or approved, SUBCONTRACTOR shall give SECOR and such public authority, as required, timely notice of its readiness for inspection. If any such part of the work is covered up without SECOR's approval or the required approval of public authority, it must be uncovered for inspection at SUBCONTRACTOR's expense, if directed by SECOR or such public authority. SECOR shall have the opportunity of witnessing all tests.

10/97

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(Supplier/SUBCONTRACTOR - white/SECOR Contracts - green/SECOR Accounting - canary/Receiver - pink/SECOR Project File - goldenrod)